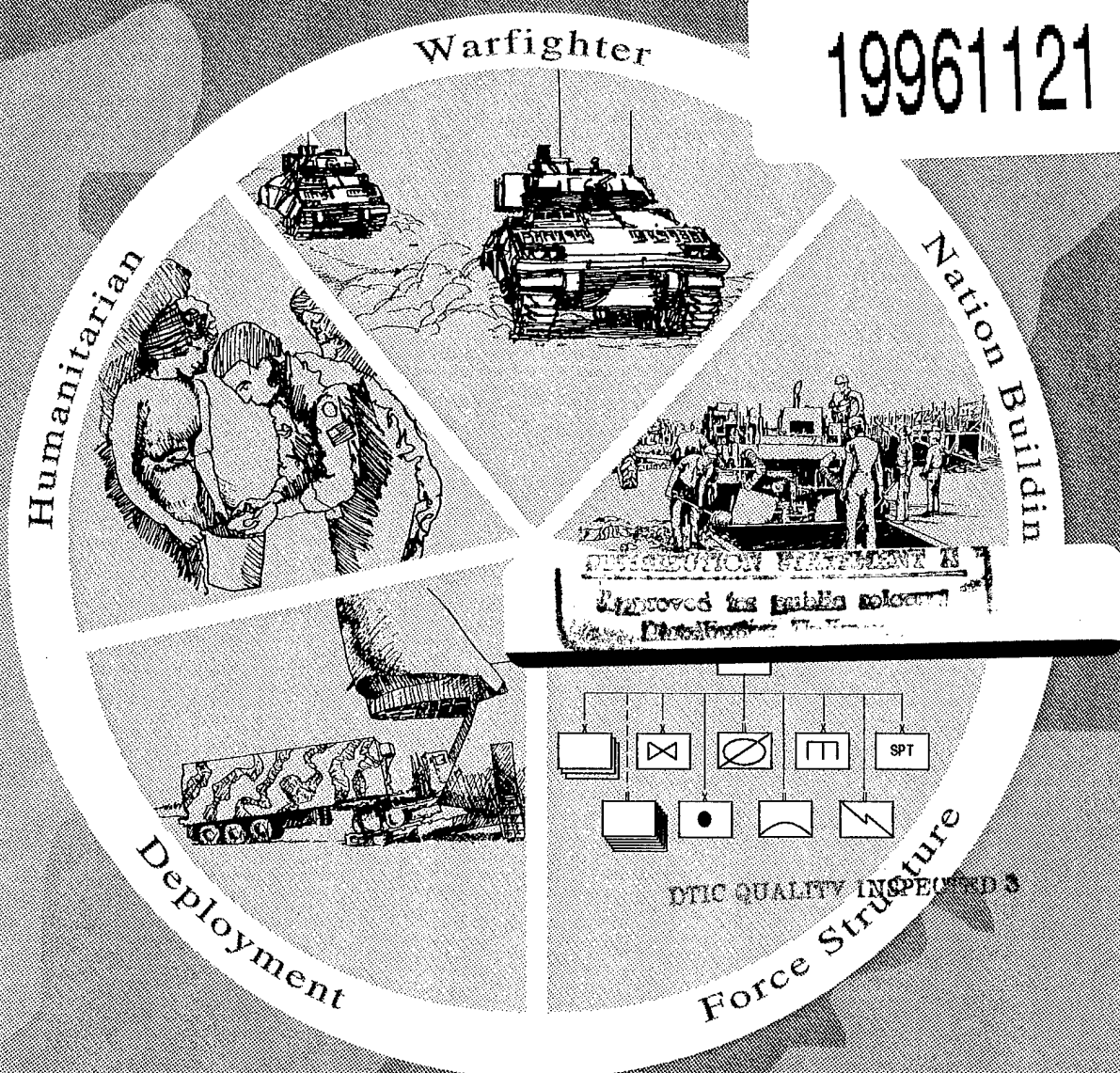




Future Vision:

A Capabilities-Based Army for
Transition into The 21st Century

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Applications Group
Battle Command and Training Division

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Louisiana Maneuvers Task Force
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Prepared By: The Titan Corporation
Battle Command and Training Division
426 Delaware Street, Suite C-3
Leavenworth, Kansas 66048

The views expressed in this study are those of the authors and do not necessarily reflect the official policy or position of the Louisiana Maneuvers Task Force, the Department of the Army, the Department of Defense, or the U.S. Government. This study is intended to stimulate thought and discussion on the subject of the U.S. Army of the 21st Century and the means and methods to guide its change in that direction. The study is also intended to postulate a candidate unifying, central vision and focus necessary to guide the Louisiana Maneuvers process in its formulation and examination of the key issues facing the Army as it moves into the future.

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Executive Summary

Future Vision:

A Capabilities-Based Army for Transition into The 21st Century

This study is a bridge to the future, forming the underpinnings of a campaign plan which creates a mobile Army capable of rapid response to crises anywhere, providing the nation the capabilities, during peace and war, that promote deterrence and democratic stability, and if necessary, the means to fight and win with minimum casualties — a world class flexible force.

We live in an uncertain world. There is no doubt that the Army is the dominant force for assisting, controlling, and dominating where people live, on the land.

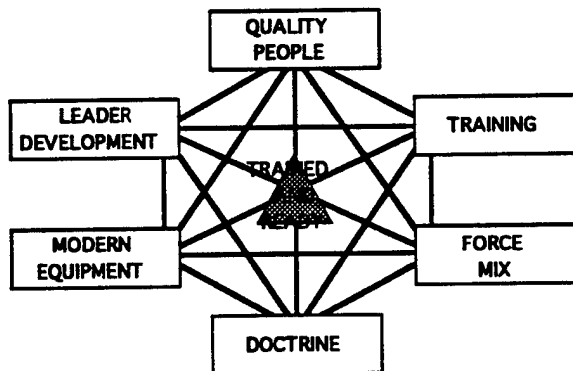
There is no doubt that as all of the Armed Forces of the United States are reduced and the world continues to metamorphose, all of our security efforts will be on a joint, inter-agency, and combined plane. The US does not wish to be the lone participant in maintaining a world order where democracy can flourish.

The US Army's basic mission has not changed from deterrence, and should deterrence fail, to fight the country's land battles and win decisively. What is changing are the methods and forces required for deterrence and, for the foreseeable future, the size and nature of the opposing force. Gone for a time are the large Warsaw Pact standing armies, but not gone are the threats from smaller despots who bode democracy ill.

While some past threats remain viable, such as that presently faced on the Korean Peninsula and in Iraq, there is little else immediately visible on the scene that would justify the continuance of the previous threat-based force in waiting. Couple this with the present national struggle to come to terms with an ever visible federal budget deficit and resultant pressures on defense spending, and it becomes apparent that the Army must change the way it goes about some of its business.

From the basic foundations of doctrine and the way the Army is raised, equipped, trained, and maintained, to the thought patterns governing the way it approaches self-analysis and resultant change, the guideposts established for the Army are critical. There is one immutable fact, however; the primary purpose of the Army is to provide the US with the capability to dominate where people live — on the land — wherever it need be. On the other hand, there are other lesser included tasks for which the Army is well suited, such as peacemaking, peacekeeping, humanitarian, and disaster relief operations. Change is necessary and must be focused, efficient, and the burden of change borne only by those where change is required.

In the face of monumental geopolitical changes, certain relationships and circumstances endure. The US will maintain its historic, close ties with Europe in one form or another; the expanding industrial democracies of the Pacific Basin require attention to further



the national security interests; the Middle East and vicinity will remain a troublesome arena; and South America presents the continuing challenge of fostering development, while needing encouragement and help in their further maturation of democracy in the area. It appears no area of the world can either consume our interests to the exclusion of others or be ignored as too distant. The trend will be towards *focused partnerships* and coalitions, each forged in unique fashions for the mutual benefit of all the parties involved.

A Way Ahead — An Operational Vision

Inasmuch as the large land force threats have dimmed, the Army now needs a structure and force composition which is not more for less, which can not only fight a lesser size battle or land campaign, but can do lesser tasks with ease and yet be elastic in the organizational sense — it can return in a timely fashion to the successful organization which fights the large battle, while being easily adaptive to fit current operational US national security needs.

The essence of this paper is contained in the following key proposals, which should serve as the guideposts we put forward for the Army's move to the 21st Century and beyond. These guideposts summarize the operational vision, which provides the campaign plan for flexibility in structuring today's Army for tomorrow's missions.

- √ The Corps should be the highest operational and logistical headquarters for both joint and combined operations unless a major land threat emerges. A major land threat cannot emerge suddenly; this requires significant forces, materiel, training, and C² — all easily detectable.
- √ The Corps Headquarters will be the nucleus for an Army-predominant JTF and provide the Army Force Headquarters supplementary personnel and forces to those JTFs headed by the other Services as well as coalition headquarters requirements.
- √ The Division, with its three operational Brigades, should be the primary Army Force component of a JTF, providing the primary command and control for the forces needed to accomplish any mission short of a large, major conflict. The combat multipliers of aviation, artillery (tube and rocket), signal (suitable to support USARFOR Hq responsibilities), engineer, air defense, reconnaissance, and battlefield support mechanisms will provide flexibility of force to the Division operating forces. The Division must have the authority to synchronize the application of fires that have an impact on the accomplishment of the land mission.
- √ The Division will have no permanently assigned operational Battalions except the Division Troops. In peacetime the Divisions have training and maintaining responsibilities, except during joint, interagency, or combined training exercises. At that time, they are provided their operating Battalions to fit the training scenario. During operational missions the divisional Brigades are provided the number and types of Battalions needed to do the mission from Department of the Army assets.
- √ The Brigade places demands on higher headquarters for the assets it needs to accomplish its assigned tasks. Below the Brigade level, fixed organizations take care of this. The Brigade is the lowest level that can plan beyond the current operation.
- √ The basic building block of the Army for creating force packages is the Battalion for combat and combat support forces and the Company for combat service support forces. The Department of the Army owns all battalions and assigns them to various Divisions for command and control as the situation warrants.
- √ The combat Battalions function very well, have staying power, are understood by the leadership at all levels, can do their specialized jobs, and have a recognized and sufficient lethality for their size. When combined with the combat multipliers at the Corps and Division, along with the ability to make joint systems tactically relevant, the number of combat Battalions

may be reduced in number to about seven per Division. This provides the organizational flexibility to assign other type Battalions or more combat multipliers to a specific Division structure based on its particular mission.

- ✓ The combat Battalions being removed from the Active Component should be retained in the Reserve Component force structure in an appropriate RC Division. They would be designated for a specific AC Division during mobilization for the large land combat threat, with the RC Division responsible for reconstituting the departing battalions. It is appropriate that these designated Battalions be commanded by AGR or AC Battalion Commanders due to their high priority for mobilization and possible deployment.

Historical Perspective

In reviewing organizational change over time, we focus on the essence of the change. We should avoid being distracted by connotations associated, for whatever reason, with the name labels and numerical strength we currently attach to the various echelons. For example, what is a Corps and what is its role in military operations? Roles and missions change over time and such change is best approached with an open mind.

While in today's Army an azimuth change may need take place, the social and organizational disruptions that normally accompany change perhaps should be minimized for those at the heart of the Army, the Battalion. Our azimuth adjustments are primarily needed at higher levels. The Battalions, for the time being, are least equipped to manage and control change, especially at this time when they are already coping with a significant downsizing while still expected to be prepared to fight and win.

As we review the history of recent armies, large formations and the requisite headquarters to control them are a relatively modern phenomenon, dating from the Napoleonic period of the early 19th Century. The US experience is even more recent, with our first attempts at large units occurring in the Civil

War. The innovation of this period was the introduction of Corps and Divisions, with the concomitant assignment of roles, missions, and responsibilities.

The history of reorganizations within the US Army shows a cyclical pattern of moving the roles and missions back and forth between these echelons, along with the necessary restructuring of subordinate elements. Corps have shifted from being purely tactical headquarters, as in World War II, to the full headquarters of today with complete responsibility for logistics, personnel, administration and more, in addition to tactical C². Most changes to the Corps have been the result of trying to best streamline the logistics system. Divisions have gone from square to triangular to pentomic to ROAD to triangular again, with the basic configuration we have today essentially stable for the past 25 years. Divisional changes have most often been the result of new doctrine and tactics, such as efforts to cope with the nuclear battlefield and the extended battlefield. Meanwhile, the lower echelons have been through the G-series to H-series to J-series to L-series TO&Es. Quite a few of these changes have resulted from new or radically improved equipment fieldings or as a result of a ripple down effect from the reorganization of higher echelons.

Without regard to the catalyst of change, it can fairly be stated that one common thread of every TOE change since 1947 has been reorganization or implementation at the Battalion level. Whether the reorganizations have been driven by equipment and doctrinal changes, or have themselves driven equipment and doctrinal changes, every reorganization has been accompanied by turmoil at the small unit level and some degree of lessened operational readiness, even if for an undefined period of time. Even when the change has been limited to the transfer of equipment and personnel assets from one unit to another within the Battalion, it has been a major exercise for small unit commanders. You can move equipment around in the lower echelons fairly rapidly — how the unit operates with its people and major pieces of equipment takes much longer to assimilate. New doctrinal manuals, as well as tactics, techniques, and procedures, need to be

conceived, tried, written, learned, and become part of the unit psyche.

Most importantly, these changes alter the understanding of the subtle relationships required to put various numbers of maneuver elements, fire support and combat service support together to respond rapidly. It is taking a lieutenant into the Army, socializing him or her in a particular organizational structure, and then changing that same structure while he or she grows and matures as a leader and commander. Each time this officer comes back to the tactical base, the Battalion, to command a Company, be a staff officer, or command the Battalion, the structure has changed. In any given 17-year period (the average length of service from Platoon leader to Battalion commander) between 1945 and 1985, the Battalion structure changed three or more times.

The structure of a combat arms Battalion has remained fairly stable now for about ten years. This structure has proven itself in combat in Operation Desert Storm, and has been used as well in operations short of war. Our soldiers, noncommissioned officers, and officers are more effective in war and peace because they have mastered this organizational structure. The tactical and operational doctrine that exercises this structure is changing, to be sure, but incrementally. Barring some radically new technological breakthrough or equipment redesign and fielding, we ought not to burden the lower echelons, where leaders are less experienced and more harried, with another reorganization which probably isn't needed at this point in the Army's evolution.

The World of Today

No longer can the Army focus almost exclusively on a single, monolithic threat, on a known battlefield in a well-developed theater, with detailed, well-rehearsed battle plans. The age of assumed certainty has passed and given way to an age of almost total uncertainty, an era of transition. Significant and fundamental changes in military, economic, and political institutions, organizations, and alignments have occurred throughout the world in the last five years. While it may be true that the Cold War has ended, it has been replaced by a

world which continues to be dangerous but is now uncertain. This direction is welcome as the world strives to bring on democracy, but it has created a fragile transition.

There is a continuing trend towards destabilization in much of the world, driven by a variety of regional factors. New relationships are forming between countries and regions. However, these relationships are not yet mature, and in some instances (former Yugoslavia for example), international rules are not yet accepted. Potential conflicts are increasingly dangerous due to the accessibility to all nations of advanced and extremely lethal technology. However, the danger of large land conflicts seems to have passed, at least in the immediate future. It is to be expected that conflicts will be of a regional nature in the decade ahead. Most of the potential trouble spots are well known and have been analyzed and discussed in many forums.

New relationships between nations and regions are being forged and are not yet mature. Third world countries continue to arm themselves with highly lethal weapons and sophisticated delivery means. And while the likelihood of a large land force confrontation with coalition forces seems to have diminished for the time being; the possibility of widespread, localized conflicts has greatly increased.

Challenge

The challenge facing the US Army is to be prepared for commitment to a series of smaller size geographically dispersed regional confrontations. Army operations in the future will not be entirely combative in nature. There will be operations requiring the provision of humanitarian services as well as security. There is a need to provide smaller, self contained forces to do not only the lethal, direct warfighting, but more. These committed forces may act independently or in concert with other nations. They need to be tasked organized to do the job; they must be forces in being, which can be brought rapidly together for specific missions, yet also quickly returned to pre-mission configuration.

While these potential trouble spots are fomenting, US military forces are reducing their for-

ward deployments around the world and also reducing the total force structure through elimination of uniformed personnel as well as reducing the number of tactical units.

The Army faces a significant challenge in adapting to being able to provide the variety of units needed for tasks emerging in the changing world environment. It will be expected to undertake new and often unfamiliar missions, in different and formerly less urgent theaters of operation during the next decade, meanwhile being prepared to participate in a major conflict. We need to address the most relevant, important considerations in building an Army and focus, in general terms, on the doctrine, training, organization, leadership and materiel changes necessary for the Army to execute the tasks expected of it during the next decade.

The Army must be prepared to execute missions in every region of the world across a broad operational spectrum, ranging in size and complexity from a limited military response like Operation Just Cause in Panama to a major military response like Operation Desert Storm. The Army must also be prepared to conduct peacekeeping, humanitarian and disaster relief operations, and to support anti-narcotic and anti-terror operations where necessary.

A power projection Army, from CONUS or overseas, that can accomplish all these missions requires a truly versatile, elastic force structure, capable of task organizing on short notice to undertake new and often unfamiliar missions, then also capable of rapidly returning to its original configuration of fighting our nation's land battles. This force must be backed by responsive, effective, and efficient command and control, as well as, a deployment capability that permits units to be operational upon arrival.

To defeat an enemy, it is necessary to generate sufficient combat power at the right place at the right time. In the past, the US Army generated sufficient combat power at the right place and time most often by placing overwhelming numbers of combat and combat support units in the operational area.

Faced with fewer units, the Army must substitute mobile lethality for numbers of combat and combat support units.

The Army must also adapt tactics and techniques that will optimize the use of lethal weapon systems, both organic and those of other services and nations, at the right time and place in an operational area in order to place maximum value on minimizing casualties. The ability to provide simultaneous application of combat power from diverse sources is imperative.

Further, it must develop procedures to make available joint and coalition power tactically relevant. It must be able to focus force in the operational area from another locale and service.

In the absence of a defined threat and in an uncertain world of missions, then, the mission essential task for the Army is to be able to fight any threat on the horizon of time, while maintaining an organizational flexibility to provide security and service support to a variety of democratic governments in a variety of political and geographical environments.

Analytical Framework

The DOTLMS structure provides a reasonable framework for considerations to organize the several proposals necessary to prepare the Army for the missions of the future. Here's a brief summary of those key points and proposals that are developed in detail in the study. Separate chapters are devoted to each to isolate on their importance, but each one has been considered within the overarching concept of a power projection Army for the 21st Century.

- ✓ **Doctrine.** The new FM 100-5 provides the correct direction and philosophy. As the Army continues to adapt to a changing world, together with changing missions and capabilities, doctrine must be continuously updated to ensure that the Army sets the lead in determining how it will operate in the field. Most importantly, continued emphasis must be placed on joint, combined, and coalition operations. Specific tactics, techniques, and procedures must

be developed to integrate and synchronize the mobile firepower of the US Air Force, US Navy, US Marine Corps, and other coalition forces and to make this firepower tactically relevant.

- ✓ **Organizations.** The Division becomes the operational centerpiece command and control structure with attachment of tactical executors based on mission need. The Division will be the primary Army component of the JTF and provide the USARFOR Hq element, augmented as necessary by the Corps. The Division has no permanently assigned units except for Division Troops. In peacetime, combat Battalions are assigned for training, administration, and maintenance; in wartime or for contingency missions, each Division should have no less than seven combat Battalions available as well as other Battalions such as Engineer, Military Police, Transportation or Quartermaster available to the Brigades, the exact number being dictated by the assigned mission. Echelons Above Corps are minimized, with the Corps being the highest operational headquarters; the Corps itself forms the JTF Hq for an Army-predominant JTF.

- ✓ **Leader Development.** The total value of the officer corps to the nation, now and in the foreseeable future, will be in its ability to meet the challenges captured in the phrase "lethality-plus." The United States Army commanders and staff officers have a tall order to be able to:

- Confidently cope with multiple objectives, simultaneous operations, and tasks laden with ambiguity and complexity.
- Rapidly adapt to the strategic environments of peacetime engagement, conflict short of war, and war.
- Comfortably and confidently operate in joint, combined, and interagency operations.
- Skillfully integrate and synchronize lethal and nonlethal systems, leading

with the system most appropriate for the situation and mission.

- Masterfully apply doctrine, materiel, and organizational structure to minimize the number of soldiers in harm's way.

- ✓ **Training.** Regardless of the many challenges presented by the new environment, tough, realistic, battle-focused training must continue to be our bottom line. This training cannot be properly conducted without a major commitment to appropriate simulator and simulation development. Now more than ever, our training system must produce soldiers, leaders, teams, and combat, combat support, and combat service support formations that:

- Achieve land dominance by conducting combat operations over large distances with speed and ferocity such that there are no friendly casualties.
- Adapt organizational structure and training priorities to meet the demands of rapidly changing environments and missions.
- Demonstrate versatility at all levels, shifting with ease to meet multiple and unknown threats.
- Exercise initiative, judgment, and problem-solving experience when the situation is vague and doctrine falls short of an answer.
- Provide a means for joint capabilities to be rapidly available at the tactical level.

- ✓ **Materiel.** The Army's need to be capable of responding to the variety of challenges, in which it will participate in the future of US security, requires a materiel and technological capability which is affordable while also providing the ability to overmatch in the new world reality. The equipment that will describe the Army of the future will meet a wide range of needs, from humanitarian missions to performing as a credible component in a joint-com-

bined force fielded to meet a major regional or global threat. These are not easy developmental and acquisition tasks; the focus must be towards capabilities that provide the greatest unit return while providing synergistic capability rather than simple system effectiveness.

Five specific capabilities need to be exploited to effect the changes in doctrine and organization discussed in this paper. The capabilities are:

- Battlefield awareness: information on capabilities, status, and location versus merely raw data transfers.
- Combat identification: small units especially need this capability during sudden encounters.
- All-weather, day/night operating capability: particularly critical for the 24-hour a day war.
- Tactical missile defense: protect the force against longer range, indiscriminate strikes from outside the immediate area.
- Simulations and simulators: this is key to maintaining the winning edge as

other live training opportunities become progressively more constrained.

Meeting The Challenge

This paper presents a campaign plan for creating a mobile Army capable of rapid response to crises anywhere. The ideas and concepts remain to be tested and evaluated, then those that pass the test should be scheduled for implementation as soon as practical. The *Louisiana Maneuvers* process provides the ideal testbed for these concepts. Everything described in this study is adaptable for evaluation as an issue under the LAM umbrella. This also ensures that those concepts passing scrutiny are quickly surfaced to the LAM Board of Directors for a final review and recommendation. Through this process, those ideas of immediate benefit to the Army can be implemented rapidly.

Time is critical in this period of rapid evolution on the world stage. The US Army must demonstrate extreme flexibility and agility in its thinking and in its actions or face the unsettling prospect of being overcome by world events. The fate of the Army rests in the hands of its senior leaders in a pivotal era — rising to the challenge will ensure an Army capable of reprising the successes of the past 218 years. Hopefully, this study will contribute in some small measure.

Summary

This study is a bridge to the future, forming the underpinnings of a campaign plan which creates a mobile Army capable of rapid response to crises anywhere, providing the nation the capabilities, during peace and war, that promote deterrence and democratic stability, and if necessary, the means to fight and win with minimum casualties — a world class flexible force.

Chapter 1

Historical Perspective

We've changed our organizations for many reasons over time and most often at the Battalion level. There are two things that stand out: historically change has caused turmoil at all levels and we should change to address the situation, not just for change's sake. There is no specific concept of what a Corps and Division are in terms of size, unless it's the naturally hard experience of the commander. Corps and Division are names which connote level of effort, but that's about all they have in common.

Early History

If we are to look forward, it helps to review what those who have gone before us have done. When we evaluate Corps, Division and Battalion-level structural modifications, what has been the norm? The structure that we now call a Division was a French invention, dating from the middle of the 18th Century. The French general Pierre de Bourcet envisioned a self-contained mixed unit of Infantry and Artillery approximately 10,000 soldiers strong, that could operate independently for a limited period of time in mountainous terrain. Subsequent development of this concept in the French army called for several of these units, named Divisions, to march by separate routes to a common locale for battle. Napoleon introduced the Corps about a half century later, both as an instrument of command and control and to introduce a system of supply. A French Corps in 1806 had two to four Infantry Divisions, a Brigade or Division of light Cavalry, several Artillery Batteries, Engineer troops and supply services.¹ The Napoleonic Division was 4-5 Infantry Regiments with an Artillery Regiment. The Division was a fighting unit, and its commanding general commanded all arms and services necessary for victory. The Corps commander was a commander of Division commanders, a concept that has survived to our time.

The United States Army did not employ the Division as a tactical unit until the Mexican War (1846-47).² The single greatest prob-

lem was finding officers qualified to handle large units in combat. During our Civil War, the Division remained a tactical unit, but without a standard TO&E. Generally a Division consisted of three Brigades, an Artillery formation and sometimes Cavalry. Later in the war Artillery was withdrawn to Corps, and Cavalry was organized into Cavalry Divisions. As in the Mexican War, the problem was one of leader competency. There were few officers with the experience of commanding large formations and integrating them for mission accomplishment, no training institutions for this level of command, no field manuals, and no command or staff culture for the duties and responsibilities of Division-level command. It was obvious that to command and properly integrate various capabilities at Division level required training and experience over time.



The Corps, after it was organized in March 1862, also did not have a fixed TO&E. It was a tactical headquarters that normally deployed into combat three Divisions of Infantry and several Artillery Battalions. Leader and staff competence were no less a problem at Corps than at Division level. The Division and Corps levels were groupings of subordinate organizations for the tasks at hand. The lessons to be learned revolved around leader training needs as well as flexibility and consistency in force structure content.

World War I

In the period between the Spanish-American War and World War I, the Army underwent major structural changes. The experience of the Spanish-American War, developments overseas and lessons learned in annual maneuvers all suggested that larger, more self-sufficient combined arms units were needed. The 1905 *Field Service Regulations* created a blueprint for a wartime Divisional organization, and in 1910 the General Staff drew up a plan for permanent Infantry Divisions. It wasn't until the spring of 1911 that the Army attempted actually to form a "maneuver Division" at San Antonio, Texas, in response to the civil unrest and government crisis in neighboring Mexico. It took almost 90 days to concentrate some 13,000 troops, less than called for by the TO&E. Based on this experience, Secretary of War Stimson was able to persuade Congress to authorize four peacetime tactical Divisions. Stimson and the Army Chief of Staff instructed the War College to prepare a plan for the tactical reorganization of the Army, to create a permanent Divisional organization.³ The ongoing civil war in Mexico provided the rationale to mobilize the 2d Division at Texas City and Galveston in late February 1913. This Division was made up of three Brigades and Division troops of one Field Artillery Brigade and one independent Cavalry Brigade with supporting troops. The Division became the building block of the Army.

The National Defense Act of May 1916 authorized tactical Divisions, with three

Brigades to a Division and three Regiments to a Brigade. The Army General Staff, based on its study of the ongoing war in Europe, concluded by mid-1917 that the organization authorized by the 1916 law was already obsolete, and began making changes.⁴ The triangular Division, containing elements grouped by threes, was reorganized into a "square," wherein a Division contained two Brigades of two Regiments each. The resulting 27,000+ Division was designed to have the manpower and firepower necessary to penetrate trench-type defenses being used in Europe at that time. The stimuli that drove this TO&E change were the machine-gun and the trench. Consequently, the Army prescribed what was in a Division, down to and including Regiments.

By the end of the war, the commander of a Division in a breakthrough would deploy a square of three Battalions abreast by three deep, supported by tanks, on a frontage of 1.5 to 2.5 miles, with the objective of penetrating three to five miles into the enemy's defenses. He would maintain a maneuvering force of one Infantry Regiment and his general support Artillery. Such a Division, though it contained great firepower and mass, was ponderous in maneuver.

The World War I Corps headquarters was formed in June 1918 to exercise tactical control of Divisions. Corps commanders were assigned a geographical sector of the front and maneuver Divisions to defend or attack within that sector. The Corps TO&E was four combat Divisions and two replacement Divisions, totaling 145,000 soldiers. Corps units included corps troops of an Infantry Pioneer Regiment, two Cavalry Regiments, two Artillery Regiments, an Engineer Regiment and assorted other support units, totaling 19,000 soldiers.

World War II

In the interwar years, the Army strove to maintain the firepower of a World War I Division but at a much lower manning level. Every level of Infantry organization from Squad to Division was examined in a process that was begun in late 1935 and com-

pleted in 1937. The organization was built to meet the large land battle requirement. The triangular Division finally approved in 1939 was the result. Three Infantry Regiments of three Rifle Battalions each replaced the Brigades. Divisional troops included one Artillery Battalion, a Reconnaissance Battalion, Signal Company, Engineer Battalion, and service troops. Three Artillery Battalions were parceled out, one each to the three Infantry Regiments. The final approved TO&E provided for about 15,000 soldiers. In contrast to the Infantry Division TO&E, the Armored Division abandoned the Regimental headquarters and formed two "Combat Commands," to which were assigned Battalions, the primary Armor combat unit, as required by the tactical situation.⁵ In 1943 this structure was modified to contain three Combat Commands (CCA, CCB, and CCR), to which could be assigned a mixture of the Division's three Armored, three Armored Infantry, and three Armored Artillery Battalions to meet the special requirements of the tactical situation.

A March 1942 directive authorized the formation of six types of Divisions: Infantry, Motorized, Armored, Airborne, Mountain, and Cavalry. The Motorized Division was later converted back to standard, and just three Mountain Divisions were formed (89th, 10th, and 71st), of which only the 10th was kept active. The common problem discovered in testing of the new light Division was its inability to deploy their tactical elements effectively and supply themselves. Airborne Divisions designed and fielded during World War II remain in one form or another to the present.

An important concept introduced in World War II that still has relevance is "pooling."⁶ Applied to both units and equipment, the concept was to maintain a pool at the level of common usage, rather than units having low densities of occasionally needed assets, thus gaining efficiencies and introducing tailoring of forces for special missions. Implicit in this concept was a higher headquarters, namely the Corps, to which these soldiers and equipment packages were assigned, and who directed their deployment.

Below the Division command level, this concept was reflected in the pooling of special weapons into Platoons and Companies (heavy mortars, antitank guns, heavy machine-guns, etc.). This resulted in Weapons Squads in the Rifle Platoon, Weapons Platoons in the Rifle Company, Antitank Companies in the Infantry Regiment, and so on. Elements of this concept are still visible in today's TO&Es. The concept has applicability in terms of pooling not only personnel and equipment, but also functions.

Another organizational innovation of this period was the stripping away from Corps of all organic elements except headquarters and related organizations needed to exercise command.⁷ The responsibilities for logistic planning and execution were thus split between Division and Army, with most of the resources for storage and movement of supplies remaining at the higher level. A special board was convened in Europe in the summer of 1945 to study the World War II Infantry Division. Based on the experience of the war just won, and its view of the post-war world, this board defined the following role of the Infantry Division in the United States Army at that period in history:

"The Infantry Division is the basis of organization of the field forces. It is the smallest unit that is composed of all the essential ground arms and services, and which can conduct, by its own means, operations of general importance."⁸

In World War II the Corps command remained a tactical control headquarters, responsible also for planning joint and sometimes combined operations. II Corps went ashore in North Africa in 1942 with two maneuver Divisions, one Armored and one Infantry. General Patton's Corps-sized Task Force in the same operation disposed of two Infantry and one Armored Division. In mainland Europe, 1944-45, a US Army Corps varied in Divisional strength from one to four, depending on the mission, enemy, troops and terrain over which the Corps was to fight. A typical Corps in the Pacific Theater comprised two Infantry Divisions,

but also varied from one to four, as in the Okinawa and Philippine campaigns.⁹

Post-World War II

The structure of the post-World War II Infantry Division remained triangular, with three Infantry Regiments, one heavy Tank Battalion, an Artillery Regiment, a Reconnaissance Company, and an Engineer Battalion under a Division headquarters. Each Infantry Regiment had three Rifle Companies, a Tank Company, and a Heavy Mortar Company. While on paper this Division had all the firepower and maneuver capabilities of its wartime predecessor, in reality it was a hollow shell. The manpower, equipment and training problems of the Army between World War II and Korea were a direct result of post-World War II force reductions, which translated to reduced personnel strength and operating budgets for the Army. The force was equipped with World War II-era weapons and organized under World War II tactical precepts. Operational training and readiness were subordinated to occupation duties in Europe and Japan. A large number of units were retained during this austere time, but units were understrength in personnel and weapons, and training for combat was not rigorous. The Army was not manned, equipped and trained to do either the WW II mission or the post-WW II assigned missions.¹⁰

During the Korean War, the 1st, 9th and 10th US Army Corps each had two Army Divisions assigned, plus a ROK Division, depending on the tactical situation.

After Korea, it was not recent war experience that influenced the design of Army ground force structures, but rather technological developments and concomitant changes in national military strategy. The Eisenhower administration's strategy of "massive retaliation" with nuclear weapons forced the Army to develop a doctrine and organization that would allow ground forces to function effectively on a nuclear battlefield.¹¹ The issue was to have a tactical unit large enough to do the job, self-contained and mobile enough to survive, and small

enough that if hit with an atomic weapon its loss would not be a catastrophe for the operation as a whole. The resulting organization was called the "Pentomic" structure, the label an amalgam of "pent-" for the five-sided structure it contained, with "-omic" for the atomic or nonatomic nature of the battlefield. This structure is also less well known as the ROCID (Reorganization Objectives, Current Infantry Division) concept.

The tactical mantra of this era was "fire, mobility, and dispersion." The tactical core of this structure was the Battle Group, an enlarged Battalion or a reduced-strength Brigade, depending on one's perspective. The Battle Group in the 1955 TO&E consisted of four Infantry Companies of four Rifle Platoons and a Heavy Weapons Platoon each, along with a Heavy Mortar Battery and a Headquarters Company, which contained a variety of special units. The Infantry Companies proved extremely difficult to control, however, due to their size. In 1959 they were reduced by one Platoon and an additional, or fifth, Rifle Company was added to the Battle Group. This change had an impact even at the level of the Squad, which was increased from nine soldiers to eleven.¹²

The Pentomic Division structure initially provided for the attachment of one Tank Company, one Engineer Company, and one 105-mm Howitzer Battery to each Battle Group, giving it sufficient fire and maneuver capability to operate somewhat independently in battle. The Division's five direct support Batteries were reorganized in 1959 into five composite Battalions, each consisting of a 105-mm Battery and a 155-mm Battery.

The Pentomic Division structure had many problems, not least of which were command and control through a single Brigade headquarters, similar span of control problems at Battle Group level with five Companies, and mobility. The Division had too little organic means of transportation, and in the event of deployment overseas, would have to leave behind much heavy equipment.

With the changing of the political guard in 1960 came another major change in national war-fighting strategy, from "massive retaliation" of the Eisenhower era to "flexible response" of the Kennedy administration. The Army abandoned Pentomic structures and began another major reorganization, under the ROAD (Reorganization Objectives Army Divisions 1965) concept. The ROAD TO&E fit the Army like a pair of comfortable old shoes, because it was based on the World War II triangular concept so familiar to the senior Army leadership.

The three maneuver Brigades resembled the Combat Commands of World War II, to which could be assigned a mixture of combat and support forces as required by the tactical situation. The Division headquarters also disposed of an Artillery structure comprising three direct support Battalions, a composite general support Cannon Battalion, and a Missile Battalion; an Armored Cavalry Squadron, a Signal Battalion, an Engineer Battalion, an Aviation Battalion, a Military Police Company, and a Division Support Command. The mission of a ROAD Division was to destroy enemy military forces and to control land area including population and resources.¹³

The Infantry Battalion of the ROAD Division consisted of three Rifle Companies, each with 181 officers and enlisted, and a Headquarters Company. The Headquarters Company contained a Reconnaissance Platoon, a 4.2 inch Mortar Platoon, and an Anti-tank Platoon. The Rifle Company consisted of a Headquarters Section and three Rifle Platoons of forty-four soldiers each. Every Rifle Platoon had three Rifle Squads of ten each, and a Weapons Squad of eleven. The mission of the Infantry Battalion was to close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack.¹⁴

With ROAD, the Division became an almost completely functional military unit. Under the basic ROAD concept, Infantry, Mechanized Infantry, Armor, Airborne and Airmobile Divisions were formed. A Mechanized

Infantry Division, for example, consisted of 16-20,000 troops, with eleven maneuver Battalions (five Armor, six Mechanized Infantry). With the flexibility contained in the basic ROAD concept, the Army was able to design and field Divisions that met strategic requirements for a broad spectrum of Army fighting missions. These requirements envisaged military response to a broad spectrum of warfare, from nuclear at one end to low intensity conflict at the other.

ROAD served the Army through the 1960s and 1970s, when it simultaneously fought the war in Vietnam and garrisoned western Europe. While the Divisions deployed in Germany were primarily Mechanized or Armored, those deployed to Vietnam tended to be a mixture of light, Airborne, and Airmobile, with Mechanized Infantry Battalions spread throughout the light Divisions. V and VII Corps were deployed in Germany, while the equivalent of a Corps headquarters in Vietnam was the Field Force. In 1967 I Field Force controlled three Infantry Divisions and an Aviation Group, and II Field Force controlled three Infantry Divisions, three Separate Brigades, and an Armored Cavalry Regiment.

Although manning, training and leader development changes became imperative in the aftermath of Vietnam, the impetus to change tables of organization of the maneuver Divisions came not from our Vietnam experience, but more from analysis of the two Arab-Israeli wars fought during this period, in 1967 and 1973, new thinking prompted by technological breakthroughs in target acquisition and information processing, and the need to fight the central battle to defend Western Europe. The Army experienced a doctrinal resurgence in the aftermath of these developments. New concepts included fighting successive echelons (near, close, deep), extended battlefield, AirLand Battle, all directed toward countering Soviet doctrine. But while the doctrinal changes may be characterized as revolutionary, their impacts on force structure were closer to evolutionary.

While the Army committed itself to the ROAD structure in 1962, the G-series

TO&E was not published until 1965. The H-series TO&E followed in the 1970-71 period, the J-series in 1984, and the L after that. The changes from G to L appear evolutionary at first glance, but things are not always what they seem. This can best be viewed from the perspective of a Mechanized Infantry Battalion commander. He started out in the G-series with three Mechanized Infantry Companies and a Headquarters Company. Within the Headquarters Company were a Scout Platoon, a 4.2-inch Mortar Platoon and an Antitank Platoon. When the H-series TO&E was introduced just five years later, these three special Platoons were removed from HHC and placed in a newly created Combat Support Company, along with an Air Defense Section. His three line Companies remained fairly stable, with the Squad increasing from 10 to 11.

The introduction of the J-series TO&E in the early 1980s, only 10 years after the H, again brought significant change to the Mechanized Infantry Battalion. The Squad was reduced from 11 to 9, the Platoon was reduced from 4 Squads to 3, and the savings in personnel was used to create a fourth line Company. This gave the Battalion commander another maneuver element and thus increased his staying power. Combat Support Company disappeared, and its special Platoons went back to a swollen Headquarters Company. An Antitank Company equipped with M901 Improved Tow Vehicles replaced the Combat Support Company. At the Battalion level, the major change between the J-series and 1988 Army of Excellence L-series TO&Es was the replacement of M901s with Bradleys.

Conclusion

Without regard to the catalyst of change, it can fairly be stated that one common thread of every TOE change since 1947 has been reorganization or implementation at the Battalion level. Whether the reorganizations have driven equipment and doctrinal changes, or have themselves been driven by equipment and doctrinal changes, every reorganization has been accompanied by turmoil at the small unit level and some degree

of lessened operational readiness, even if for an undefined period of time. Even when the change has been limited to the transfer of equipment and personnel assets from one unit to another within the Battalion, it has been a major exercise for small unit commanders. What appears as a simple paper shuffle at high levels of command and staff in reality is equipment inventories and inspections, soldiers and leaders moving out of one barracks into another, and the breaking and rebonding of small unit cohesion. More importantly, these changes altered the understanding of the subtle relationships required to put various numbers of maneuver elements, fire support, and combat service support together to respond rapidly. It is taking a lieutenant into the Army, socializing him or her in a particular organizational structure, and then changing that same structure while he or she grows and matures as a leader and commander. Each time this officer comes back to the tactical base, the Battalion, to command a Company, be a staff officer, or command the Battalion, the structure has changed. In any given 17-year period (the average length of service from Platoon leader to Battalion commander) between 1945 and 1985, the Battalion structure changed three or more times.

The structure of a combat arms Battalion has remained fairly stable now for about ten years. This structure has proven itself in combat in Operation Desert Storm, and has been used as well in operations short of war. Our soldiers, noncommissioned officers, and officers are more effective in war and peace because they have mastered this organizational structure. The tactical and operational doctrine that exercises this structure is changing, to be sure, but incrementally. It has been written concerning the Army in the 1950s that "The transformation of soldiering in the 1950s . . . resulted from the accumulation of many small, apparently inconsequential decisions. No evidence exists that senior leaders anticipated the impact of those decisions on their profession. Indeed, few of these leaders recognized how the internal life of the Army was changing."¹⁵

The internal life of the Army has continued to change through the 1950s, 1960s, 1970s and 1980s. It will change in the 1990s. Let it not be said that the leaders of today's Army did not anticipate the impact of their decisions on our profession, or worse, that they did not recognize how the internal life, cohesion and inner working relationships at the "doing" level of the Army are still changing. The changes in order for today appear to have to meet the downsizing, joint and combined imperatives. These changes are those of echelons above Battalion.

Chapter 2

The World Environment of the 1990s Plus

The US Army has much it can contribute to building a democratic world. No longer will the Army focus almost exclusively on a single, monolithic threat, on a known battlefield in a well-developed theater, with detailed, well-rehearsed battle plans. The age of assumed certainty has passed and given way to an age of total uncertainty.

Introduction

Significant and fundamental changes in military, economic, and political institutions, organizations, and alignments have occurred throughout the world in the last five years.

As the world entered the 1980s, it was reasonably stable. It was generally divided into the NATO nations led by the US, the Warsaw Pact led by the USSR, and the lesser developed world, composed mostly of the nations of the southern hemisphere. This paradigm collapsed with the breakup of the USSR. While it may be true that the Cold War has ended, it has been replaced by a world which continues to be dangerous but is now uncertain. This direction is welcome as the world strives to bring on democracy, but it has created a fragile transition.

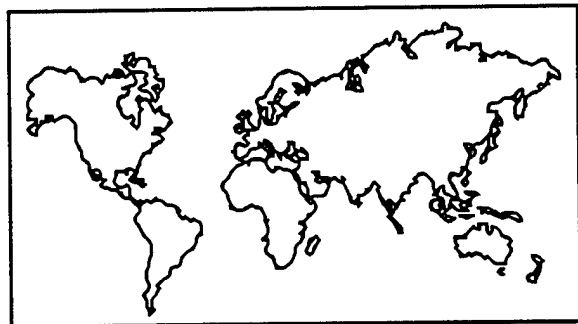
There is a continuing trend towards destabilization in much of the world, driven by a variety of regional factors. Since the breakup of the USSR, new countries have arisen out of the former Soviet republics. New relationships are forming between countries and regions. However, these relationships are not yet mature, and in some instances (former Yugoslavia for example), international rules of behavior are not yet accepted.

Potential conflicts are increasingly dangerous due to the accessibility to all nations of advanced and extremely lethal technology. However, the danger of large land conflicts seems to have passed, at least, for the immediate future. It is to be expected that con-

flicts will be of a regional nature in the decade ahead.

The Geo-political Factors

- The collapse of the Soviet Union has brought the demise of a bipolar *world order*. Ethnic, economic, and religious movements are now to free flourish absent a structured new order. The former monolithic Soviet Union has transformed into 15 *republics*, competing with one another for control of resources, both military and economic. The Ukraine and Russia compete for control of former Soviet military capabilities. The Communist *conservatives* compete with more forward looking democratic *liberals* for control of the political future of the various *republics*. There is even some likelihood that Russia could further fragment into smaller states, or that war could break out between two or more of the *republics*.



- Even as capitalism seems to be replacing socialism as a political philosophy, competition for energy and other resources intensifies as Third World and eastern European nations modernize and expand their economic bases.
- Eastern Europe has been released from enforced hegemony and now is consumed again with ethnic rivalry. The most notable is in former Yugoslavia where Serbian Christians and Bosnian Muslims have systematically murdered thousands of each other. There are possibilities that the fighting could spill over into Macedonia, Albania, and even into Greece.
- Some parts of the former Soviet Union remain occupied by the former Russian army.
- Germany is disturbed by a resurgence of National Socialist elements and concentrates on the realities of unification.
- Muamar Qadafi rules Libya, with all the unpredictability and support of terrorism that provides.
- The rise of Islamic fundamentalism is a geo-political factor from Algeria to Iran, and even bears on the potential political alignment of the former Soviet states of Azerbaijan and Uzbekistan.
- Many African nations, especially south of the Sahara, flirt with civil war. Examples are Angola (in spite of international efforts to bring peace), the Sudan, Zimbabwe, and South Africa.
- The Middle East, although the parties negotiate from time to time, continues to be an international flash point.
- Since the death of the Ayatollah Ruollah Khomeini, Iran continues its building of a powerful military force, with the help of people and equipment from the former communist countries. Iran continues its efforts to dominate Southwest Asia and the Middle East with missiles and terrorism, and by its support of fanatic Islamic fundamentalism.
- In South Asia, Pakistan is developing nuclear weapons.
- In Southeast Asia, the Cambodian question remains unresolved.
- The Philippines is still threatened by an insurgency and lack of unity.
- North Korea refuses to cooperate with the international community regarding nuclear weapons non-proliferation. The country is ruled by one of the remaining despots in the world.
- Although China occasionally shows signs of emerging from a communist dominated economy, it is ruled by an aged limited oligarchy, true believers in the totalitarian society for progress.
- Even Japan in recent months is experiencing problems stemming from resurgent nationalism and political corruption.
- In Latin America, drug cartels continue to threaten the government of Columbia and the communist Shining Path organization threatens the government of Peru. Communist inspired Sandinistas still control Nicaragua, in spite of free elections.
- Fidel Castro rules Cuba and Haiti is an example of the volatile politics of the Caribbean.

Military Factors

While the NATO nations are shifting resources from the military to the economic sectors, other nations are expanding or reinforcing their military capabilities. Many lesser developed nations have, or are developing, nuclear and chemical weapons and tactical ballistic missiles. All are capable of regional military action inimical to a peaceful world order.

Domestic Political Factors

Although the world continues to be dangerous and uncertain, a new administration is committed to military drawdown and a shift of national resources from the military to the pursuit of solutions for domestic problems. Thus the Army must accommodate the political realities of smaller size forces. It must turn to technology, training, and leadership to maintain the quality while developing the capabilities to meet the challenge of the next decade.

Also critical is the role of the Reserve Components and the political decisions affecting their future size, roles, and missions. RC units are an essential part of the US Armed Forces, particularly in the areas of combat support and combat service support. Decisions will have to be taken on their size in relation to the Active Component and on the division of missions and functions.

As the Army organizes to provide these capabilities, it must also remain prepared to support national security objectives and defend US interests as defined by the President and Congress. It is to be expected that future US military operations will most often be joint and characterized by coalitions. Peacekeeping, peacemaking, security operations, and humanitarian operations will be more the order of the day than in the past. Other potential areas for increased military emphasis appear to be humanitarian relief and, perhaps, anti-narcotics operations.

Conclusion

- ✓ ***The breakup of the USSR, though permitting a move towards democracy for the former Soviet Bloc countries, has brought about an uncertain and unstable world.*** New relationships between nations and regions are being forged and are not yet mature. Third World countries continue to arm themselves with highly lethal weapons and sophisticated delivery means. And while the likelihood of being a participant with coalition forces in a large land force confrontation seems to have diminished for the time being; the possibility of

widespread, localized conflicts has greatly increased.

- ✓ ***The challenge facing the US Army is to be prepared for commitment to a series of smaller sized, geographically dispersed, regional confrontations, as well as security and support operations.***

- ✓ ***Army operations in the future will not be entirely combative in nature.*** There will be operations requiring the provision of humanitarian services simultaneously with security and combat.

- ✓ ***There is a need to provide smaller, self contained forces to do more than lethal, direct warfighting.*** These forces may act independently, in a dispersed mode, or in concert with other nations. They need to be tasked organized to do the job; they must be forces in being, which can be brought rapidly together for specific missions, yet also quickly returned to premission configuration.

How the US Army can meet this challenge is described in the chapters to follow.

Chapter 3

The Challenge

A power projection Army requires a truly versatile, elastic force structure, capable of task organizing on short notice to undertake new and often unfamiliar missions, then also capable of rapidly returning to its original configuration of fighting our nation's land battles. This force must be backed by a responsive, effective, and efficient C², deployment, and support capability.

Introduction

US military forces are reducing their forward deployments around the world and also reducing the total force structure through elimination of tactical units and reductions in total uniformed personnel. The Army faces a significant challenge in adapting to being able to provide the units needed for tasks emerging in the changing world environment presented in the last chapter. It will be expected to undertake new and often unfamiliar missions, in different and formerly less urgent theaters of operation during the next decade. This requires a change from the formulas derived in the Cold War era to determine division and corps slices. We need to address the most relevant, important considerations in building an Army and focus, in general terms, on the doctrine, training, organization, leadership and materiel changes necessary for the Army to execute the tasks expected of it during the next decade.

The political reality is that the likelihood of a large, Central Europe-type, land battle is not high. This is not to say that the requirement to fight such a battle may not return. It may. Until it does, the Army has a variety of tasks it must perform, and yet maintain the capability of returning in a timely fashion to that type of structure which has been proven effective for that type of conflict. Until that time, our forces must be able to provide the lethality required for regional security missions, but with the same organization simultaneously providing humanitarian service and support to our partners for democracy. The centerpiece C² structure for

these operations can be the Division, using it as a base with three tailored Brigades as the executors, perhaps in geographically separated areas. This concept provides structure, flexibility, and size for the lesser land force commitments. Should a large land force that challenges US national security interests arise, then our force must regain its structure or focus on lethality and resiliency to protect our interests. How we organize and train for this transition period then becomes the issue.

War

Although there are a variety of mission capabilities the Army must possess, its primary mission is to provide a deterrent to aggression against the United States and, if deterrence fails, to fight and win with minimum casualties. With the collapse of the Warsaw Pact, military threats against the US have become regional in nature. Potential military threats to US interests over the next 5-10 years could emerge in any number of areas characterized as potentially unstable, from Northeast Asia to the Middle East to the Balkans, or from some unexpected region currently viewed as relatively stable and quiet. As always, they are best prepared who expect the unexpected.



Deterrence requires combat ready, deployable, extensible forces, capable of conducting sustained combat operations until reinforced by mobilized forces from CONUS. Deterrence may also require a forward presence of US Army forces. This is particularly the case to demonstrate commitment not only to the area of forward presence, but to the concept of coalition warfare with our allies — common procedures, training, and personal experiences critical to success in combat. A forward presence offers a number of operational advantages. It demonstrates a military commitment to the host nation. It provides the operational force the opportunity to gain knowledge of the area and to establish common operational procedures with host nation military forces and with military forces from other nations where appropriate. Finally, forward presence forces provide the deployed CINC with initial fire fighting reaction forces an ocean closer to the area in need.

Operations Other Than War

Operations other than war may include peacekeeping, peacemaking, anti-narcotic, counter-terror, and humanitarian and disaster relief.

- **Peacekeeping Operations.** Since World War II, peacekeeping operations have been conducted by the UN generally without US participation, except for Korea. In the case of Korea, US forces fought as a part of a UN command. Since the end of the conflict, the UN has sponsored peace negotiations between North and South Korea. In light of the reduced threat from the former Soviet Union, the US will probably participate more and more in UN sponsored peacekeeping activity. UN peacekeeping efforts have most often been conducted in the Middle East and in Africa, although UN troops have been deployed to other parts of the world.
- **Peacemaking Operations.** Peacemaking involves the active insertion of an outside regional neutral force between belligerent forces in order to bring about peace, similar to UN operations in the

Suez in 1956 and periodic UN efforts in Lebanon. Although the US has not participated in UN peacekeeping operations, Operation Desert Storm closely resembled peacemaking operations, using military force. Here also, as the nations of the world become more interdependent, it is to be expected that peacemaking operations will occur more often in the future.

- **Anti-Narcotic Operations.** To date, US anti-narcotic operations have been concentrated in Latin America and the Caribbean. US Army support for anti-narcotic operations has been limited. However, the Army must be prepared to provide additional support should the need arise.
- **Counter-Terrorism Operations.** Terrorism continues to be a weapon used by Arab fundamentalists, in their efforts to sabotage any Israeli-Arab peace agreement in the Middle East. The Army has participated in counter-terrorism operations with its Delta Force for several years, and must be prepared to continue to do so, either unilaterally or as a part of a coalition.
- **Humanitarian and Disaster Relief Operations.** The US Army has a noble history of humanitarian and disaster relief operations, both in CONUS and overseas. Operation Restore Hope in Somalia and hurricane relief assistance in Florida and Hawaii are typical of what is to be expected.

Combat Power Requirements

Combat power can be described in terms of the amount of lethality a force can focus at any given time and place on the battlefield. To defeat an enemy, it is necessary to generate sufficient combat power at the right place at the right time. In the past, the US Army generated sufficient combat power at the right place and time often by placing overwhelming numbers of technologically superior combat and combat support units, with an almost exclusive mission of fighting, in the operational area. Faced with fewer

units, the Army must substitute mobile lethality for numbers of combat and combat support units. The Army must adopt tactics and techniques that will optimize the use of lethal weapon systems, both organic and those of other services and nations, at the right time and place in an operational area prior to committing our close combat forces.

The concept here is to substitute combat multipliers with significant firepower mobility for huge numbers of ground combat units eyeball-to-eyeball with the enemy. Furthermore, if the commander can increase his certainty as to where eyeball-to-eyeball contact is needed, then he not need try to be a little strong everywhere as he did before. This places maximum value on protecting our human force by reducing the number of soldiers placed in harm's way. A combination of intelligence, battlefield awareness, and firepower mobility reduces the number of lethal units required at the scene. To further support this concept, procedures must be developed to make available joint and coalition power tactically relevant. The commander must be able to focus force in the operational area from another locale and service. This will provide the lethal element of a "lethal-plus" Army.

Mobility

There are two classes of mobility: strategic and tactical. Strategic mobility is the ability to deploy from home station to an operational area, configure, and conduct the required operation. Tactical mobility is the ability to move the force about an operational area, if necessary without being seen, in order to gain an operational advantage over an enemy or to achieve some other objective, for example, deliver food to starving people. The former requires necessary air and sea lift to move the deploying force and also requires packaging the deploying force in such a fashion so as to minimize the strategic lift required to deploy an effective force able to perform upon arrival. The latter requires organic transportation that affords both movement and necessary protection for the deployed force in an operational area. With smaller numbers, the Army must enhance its tactical mobility in order to con-

centrate combat power at the right place at the right time. Efficient use of multi-source lethality such as field artillery, surface-to-surface, and air-to-surface missiles can also increase tactical fire mobility.

Readiness

Readiness is the posture of a force relative to a postulated mission and its perceived ability to accomplish that mission. The Army must organize so as to optimize its readiness to accomplish the variety of missions described previously and yet sustain the capability to continually generate Army units. To do this, it must have the right mixture of forces in both the Active and Reserve Components. Since the Army's primary mission is expected to be to deter war, and if deterrence fails, to fight, then a select level of combat forces must be the most ready. Because of the nature of the organization of our Army forces — Active, Guard, and Reserve — and the unique demands placed on the Reserves in our society, and the reduced time available for synchronization training, it is logical for primarily combat and combat support forces to form the Active Component. Combat forces require the most training to integrate disparate forces with varying capabilities. Combat forces must work full time at the integration level — Battalion and Brigade. Since they train only 39 days per year, Reserve Component forces require a period of intensive training following mobilization to become combat ready. Therefore, a certain number of combat support and combat service support forces, not needed for initial combat operations, can form the bulk of the Reserve Components. Reserve Divisions should continue to be found in the National Guard in order to provide the reconstitution and buildup capability in an elastic type force.

Societal Values

The values and culture of a country determine the character of its army. Americans value life as much or more than any other society in the world. A life is a precious asset to be preserved. For the Army, this translates into minimizing casualties on the

battlefield. The Army of the future must make maximum use of indirect fire and standoff weapon systems before committing ground maneuver forces to finish the job. As previously described, Army tactics and techniques are key to integrating fires in time and space from out of sight of the enemy and thus reduce exposure of soldiers to threat of loss of life or crippling injury. This means fires from both organic weapons and those of the other services and nations.

Our society has traditionally opposed universal military conscription since it was first instituted by the Union during the Civil War. The US has not had a draft since President Nixon terminated it in 1971. Since that time, the US first relied on a volunteer Army and now it relies on the best trained, best led, most professional Army in the history of the world. This has been an arduous transition, easily dismantled, but difficult to recapture once lost. The US should continue to rely on a highly trained, well led, professional Army for its land operations.

Technology

The need to apply sufficient combat power at the right place and time has been discussed. To do this with a smaller Army, it is first necessary to optimize the lethality of our weapon systems. Then it is necessary to find the high payoff targets in a nebulous target environment and provide precision strike capability to not only conserve assets, but reduce collateral damage and loss of life to noncombatants. It is also necessary to provide protection for our force and to use machines instead of soldiers wherever technology will allow us to do so. Finally, it is necessary to enhance our command and control systems so as to focus lethality and support at the right place and time in the operational area. If uncertainty as to where force is needed can be reduced, fewer forces are needed.

Technology must be leveraged to develop command and control systems capable of processing volumes of data and then displaying usable information to enable commanders to focus lethality, independent of weather and time of day, at the right place

and time in the operational area. Technology must be further leveraged to provide for battlefield awareness, combat identification, and to protect the force from enemy attack, especially from tactical range missiles.

To Change An Army

It takes time to change how an Army fights. This is particularly true of the lower echelons. We learned from our experience, first with the Active Defense and later with Division 86 (the Army of Excellence), that it can take up to ten years for the Army to internalize new organizations, weapons, and doctrine at the lower echelons of command. This is so due to long lead times required to field new weapons and their support systems, to train up to employ the weapon systems as a team, and to break old methodologies and relationships among systems as well as form new ones in a generation of leaders. As previously described, since World War II the Army has gone through several reorganizations over the years, most of them involving, to one degree or another, the lower echelons. Given our recent experience in Operations Just Cause and Desert Storm, the current organization and tactics of the Army's combat Battalions seem about right. *From a review of the world environment and challenges to the Army, the organizational and operational problems are at our higher echelons, the Brigade, Division and Corps.*

The Army must be able to mix a variety of Battalions under a C² structure, probably a Brigade command, to do complex tasks and then organize Brigade support to conduct sustained independent operations. During peacekeeping operations, for example, when a Brigade's mission involves securing an area, building roads and bridges, maintaining law and order, and providing humanitarian relief, it may be organized with an Engineer Battalion, an Armored Cavalry Squadron, a Military Police Battalion, a Transportation Battalion, and a tasked organized Forward Support Battalion to support the force.

The Army's Divisions as currently constituted are not appropriate for the types of operations anticipated. This is not to say they cannot adapt, but that the adaptation required is not necessarily anticipated and thus cannot be done in a rapid and efficient manner. Nor are they organized to operate as the USARFOR in the operational area of a joint or combined task force, where it is necessary to concentrate on the needs of such operations as peacekeeping and humanitarian relief — build roads and hospitals, deliver food and other supplies to a distant populace, while providing potent security.

The Corps must be better organized and trained to assume the role of a Joint Task Force Headquarters (JTF HQ). To do this, it is necessary to examine Corps communications and information processing systems for interoperability with those of the US Air Force, Navy, and Marines and where required, take necessary action to ensure interoperability. Frequent CPXs with the other Services are also necessary to establish common operating procedures and personal working relationships with their battle staffs and commanders, and to understand the peculiarities of their operational procedures. The Army should also revisit the lessons learned from the Grenada operation and verify that those lessons have been applied to Corps organization and operations. This would be but one of the missions for a new JTF BCTP program.

Capabilities

The Army will be tasked to execute missions in every region of the world across a broad operational spectrum, ranging in size and complexity from a limited military response like Operation Just Cause in Panama to a major military response like Operation Desert Storm. As previously described, the Army must also be prepared to conduct peacekeeping, humanitarian and disaster relief operations, and to support anti-narcotic and anti-terror operations where necessary.

Combat and combat support Battalions now should be the formal, basic building blocks of the Army vice the Division. This is so

because they are the smallest mission-specific organization in the US Army. Divisions can then be organized and trained to provide a wide variety of capabilities in order to meet the challenges to be expected in the decade ahead. Combat Battalions are organized and trained to conduct combat and security operations, both in war and in operations other than war. Engineer Battalions are organized and trained to support combat forces in war and to conduct operations other than war, e.g., build hospitals and construct roads and bridges which would enable delivery of food and other supplies needed in remote areas. Military Police units are organized and trained to support combat forces in war and to conduct police type operations during operations other than war, e.g., traffic control, protection of the local populace from armed gangs, and assistance in building a competent local police force. Signal units are organized and trained to provide communications for combat units during war and to build or rebuild communications networks in support of civilian commerce during operations other than war. In the case of combat service support, Companies may be the basic building block. This approach has been tested over time and works very well. They may be task organized into Battalions, as necessary, to support a deployed force. The strength of capabilities required of the Army will be determined by the budget process, but what is available should be capable of executing the missions expected of them.

Depending on the requirements of the operation, Brigades are organized with the mix of Battalions (capabilities) necessary to execute the operation. Divisions, in turn, may be organized with a mix of Brigades. This task organization process provides the flexibility necessary to meet the requirements for the widest variety of potential missions/tasks the Army will face in the decade ahead. For example, one Brigade may be organized with maneuver Battalions and fire support to secure a larger operational area while two Brigades are organized around Engineer and Signal Battalions providing relief to the local populace. The Corps operates as a JTF HQ, coordinating the opera-

tions of joint and combined forces as necessary.

Operations

US Army operating forces are destined to be principally stationed in CONUS, although in areas of the world of sufficient national interest, forward presence forces may be maintained. When this is the case, such forces become the CINC's operational fuse. They must be fully operational forces, organized with sufficient combat power and support packages necessary to cope with the threat until reinforced by forces deployed from elsewhere.

Task Organization, Mobilization, and Deployment. When it is necessary to organize and deploy, US Army forces need the capability of task organizing up to Brigade level to conduct operations from the broad spectrum previously described. When alerted for a mission, it will first be necessary to determine the capabilities required to execute the mission, e.g., light or heavy forces, airborne/airmobile forces, special operations forces, security forces, mixtures of combat support and combat service support. Then it will be necessary to determine the level of command appropriate to provide for command and control of the operation. An example of task organizing at Brigade level, might be a Cavalry Squadron, an Engineer Battalion and a Military Police Battalion to secure and conduct engineer road building operations in support of a multinational humanitarian operation. Forces with the requisite capabilities are identified from the operating forces, as well as from the Reserve Components. If some level of mobilization is required, appropriate authorities are advised and necessary action taken to call up the reserves needed for the operation.

When two or more Brigades deploy to an operational area, most often a Division Headquarters will deploy to provide for command and control of the force. The Division also serves as the ARFOR headquarters when operating as a part of a joint or combined force. A Corps Headquarters deploys when ordered to do so, to operate most

often as the JTF HQ. It also provides the combat service support functions previously expected of the Theater Army. It can do this since the size of forces deployed for operations in the near future are expected to be much smaller than those planned for in the past.

Deploying forces are prepared for deployment to an operational area. Forces may be united under the controlling headquarters in CONUS or in the operational area, depending on point of origin of deploying forces, timing and availability of strategic lift, location of equipment, urgency of need in the operational area, and other factors that may influence deployment schedules.

Upon arrival in an operational area, deploying forces reconstitute under the senior command and draw equipment shipped from home station, from prepositioned stocks, or already in the operational area. When it is necessary to do so, a lodgement area is established, by force if required. Once secured, the lodgement area is expanded to accommodate follow on forces and to support mission execution.

Combat Operations. When it is necessary to use force, US Army forces initially orient on destruction of the enemy's capability to fight. Inherent in this is the command and control and ability to support combat operations. Because of the need to limit exposure of soldiers to enemy fire, maximum use is made of indirect fire weapon systems and standoff weapon platforms in order to minimize exposure of US Army forces to enemy fire. US Army forces coordinate and synchronize continuous attacks against enemy command and control, logistics, and indirect fire systems by Army indirect fire and standoff weapon systems, and as may be augmented by US Navy and Air Force surface-to-surface and air-to-surface weapons systems. Enemy close combat forces are also repeatedly attacked by indirect and by standoff weapon systems. Armor protected maneuver forces (Infantry and Armor) will close with and destroy enemy forces remaining only after full engagement by these systems. During coalition operations, it will be necessary to employ and synchronize indi-

rect fire support and air-to-surface support by military forces of other nations.

Fire support is provided by systems operating with the Division or available to the Division. These systems include Army cannon artillery, multiple rocket launchers and aerial platforms, and US Air Force and US Navy surface and air-to-surface systems. Fire support is employed synchronously to attack high payoff targets which contribute to destruction of the enemy's capability to conduct operations. Most often, these targets include enemy command and control, logistics, intelligence, target acquisition and fire support operations. Fire support is employed by the Division commander to maximize destruction of the enemy force before the employment of maneuver. Maneuver forces are employed to finish the job after attack of the enemy by standoff fire support systems.

The Division, and Brigade when operating independently, provides for its own final air defense while others may provide the initial layer, to include defense against surface to surface missile attack. When the enemy is armed with such weapons, it will be necessary to augment the Division and, infrequently Brigades, with air defense systems necessary to counter enemy weapon systems.

IEW operations conducted to see the battlefield are critical to the outcome of any combat operation. They focus on finding the right place and right time for the right weapon. To do this, it is necessary to markedly improve Army IEW operations to get timely information to those who can use it. Too often, information exists in the IEW battlefield operating system, but for some reason does not get to the people who need it.

Command and control operations must exploit the information gathered and processed through IEW operations to place the right amount of combat power at the right place at the right time. It will often be necessary to do this while on the move. Divisional communications capabilities must be expandable so as to support the Division when it is

functioning as the ARFOR in an operational area.

Peacekeeping and Peacemaking Operations. Peacekeeping and peacemaking operations will usually be conducted as a part of an international force. During these operations, the focus is expected to be on separating warring factions and providing security for the local populace to resume peaceful occupations. These types of operations often require humanitarian assistance, for example, supplying foods and other goods needed simply to exist. To conduct these operations, a mix of combat, combat support, and combat service support will be required. Security and support for the population must be simultaneously provided using Army, joint, and combined forces — a new challenge.

Anti-Narcotic Operations. Support for anti-narcotic operations may simply take the form of assisting other US government agencies' US border operations or may involve more complex operations in cooperation with host nation governments and armed forces. These operations will most often require special operations forces, although light maneuver and aviation forces with engineer support may also be necessary.

Counter-Terror Operations. It is to be expected that counter-terror operations will be conducted by small forces, specifically trained to train others or to conduct such operations themselves. These operations will, most often, be conducted by special operations forces.

Humanitarian and Disaster Relief Operations. Humanitarian and disaster relief operations may be conducted by any size force, but most often by Brigades or Divisions. Brigades will be organized with specific capabilities as previously described to meet the requirements of the operation. When it is necessary to deploy more than one Brigade, a Division should be deployed and be able to operate as the USARFOR Headquarters. This will require some alteration to the current Division structure, primarily in the Signal Battalion and in staff training. Corps

will also assist in providing staff augmentation to the Division for this mission.

Redeployment and Demobilization. When US Army involvement in overseas operations is completed, deployed forces redeploy to CONUS or to some other station as directed. US Army forces may be drawn down and redeployed gradually, leaving stay behind forces for limited operations, or the entire force may redeploy at one time. In any event, upon return to CONUS, it is to be expected that Reserve forces will demobilize and return to home station.

Organization

The Army may be organized with active operating forces consisting of at least two Corps Headquarters, a number of Division and Brigade Headquarters and a mix of combat, combat support and combat service support Battalions. Reserve Components will contain an additional Corps Headquarters, Divisions, Brigades, combat, combat support and combat service support Battalions. In order to execute the missions to be expected of the Army, the following organizational approach is recommended.

Battalions and Smaller Organizations. Battalions and smaller organizations have been reorganized and reoriented several times over the last forty years, as described in an earlier section, in order to meet operational requirements of the times. There appears to be no need to change the roles, missions and organization of US Army Battalions and smaller organizations as the Army prepares for future operations. The current Battalions have demonstrated their specialty effectiveness and there has been no change which dictates their reorganization. As previously described, the Army's problems lie in how best to mix Battalions for missions of the future, and how best to integrate available joint and combined lethality.

The Brigade. The Brigade is the Division's principal subordinate command and is task organized by the Division with necessary combat and combat support forces (artillery, engineers, etc.) to conduct the operation. When necessary, Brigades may be organized

to conduct operations independent of Division supervision and support. When this is the case, they must be organized to provide for their own self protection, as in the case of Air Defense. A Brigade has a designated Forward Support Battalion designed to be tailored to provide logistic support to Battalions attached to the Brigade. A Brigade Forward Support Battalion should be expected to support up to a mix of four Battalions.

The Brigade is the level of tactical control to get the job done. In combat, the Brigade commander task organizes, maneuvers and fights Battalions. The Brigade commander closes with and destroys enemy forces after they have been repeatedly attacked by standoff weapon systems under the command and control of the Division. He coordinates and synchronizes deep operations when operating independently. The Brigade commander's deep operation is his next close operation. He shapes his immediate battlefield to minimize exposure of his combat forces to enemy fire. He also uses other nonlethal means to accomplish others tasks as well. The Brigade is also prepared to conduct operations other than war as required.

The Division. The Division should be the Army's new operational level of command for the operating forces, replacing the Corps. It must be capable of operating in various command relationships:

- As an independent force.
- As the basis for an Army predominant JTF.
- As the USARFOR under a US JTF command.
- As a part of an international command, for example, a NATO or UN command.

The Division is organized as an administrative and tactical operational headquarters, capable of accepting several different task organized subordinate commands. It provides command and control for subordinate

units attached to it by the Department of the Army to accomplish specific tasks.

For combat operations, the Division would be at least organized with a minimum of seven maneuver Battalions, supported by necessary fire support, aviation, air defense, engineer, military police, intelligence, and signal units. The Division commander task organizes Brigades from Battalions provided by HQDA as necessary to accomplish their missions. It is to be expected that each Brigade would be organized with at least two maneuver Battalions for combat operations, with the Division providing one additional maneuver Battalion to any of the three Brigades to enhance its staying power or to weight the combat effort. When an operation requires additional maneuver Battalions, they may be attached from other HQDA assets available under Title 10. When organized for an operation, it is important that sufficient protection be provided for the deployed force. For example, if there is an air or surface-to-surface missile threat in the operational area, sufficient air defense units must accompany the Division or independent Brigade for final protection of the force.

In combat, the Division commander maneuvers and fights Brigades. He coordinates and synchronizes deep operations to destroy the enemy's capability to conduct combat operations. The Division commander targets enemy command and control, logistics, target acquisition, fire support, and other critical support operations for attack by US Army indirect fire and standoff aerial weapon systems and by US Air Force and US Navy weapon systems. Less frequently, weapon systems from other nation's armed forces may also be employed by the Division commander, but more likely will be provided through the JTF to support Division objectives.

For operations other than war, the Division should expect to deploy as the USARFOR, to provide for command and control of Army forces in the operational area and provide humanitarian support activities as well as security. During peacetime, Battal-

ions should be placed under Division command for training.

The Corps. US Army Corps can already function as a separate US Army headquarters, as a US JTF HQ, as part of an international command, or provide the army element to a joint command headed by another Service. The Corps has the capability to operate as a planning and logistical support headquarters. It can assume the logistical responsibilities previously found in the Theater Army since the size of the forces expected to be supported most often will not warrant a Theater Army. The Corps operates as a separate Army command or as a JTF when augmented with US Air Force and US Navy forces. It may also command multi-national forces.

Reserve Corps and National Guard. In order to provide the capability to engage in a large land campaign, the Reserve Components may be organized with one Corps Headquarters, and Divisions, Brigades, and Battalions necessary to provide reserve units in the event of total mobilization. The Reserve Components should also provide Corps combat service support units, heavy construction engineer units, civil affairs units, and other combat support and combat service support units needed to round out AC task organized units. When required for specific operations, individual RC units will often be selectively mobilized on short notice and attached to Active Divisions or Brigades. It is to be expected that it will take at least one year to fully mobilize, train, and deploy a combat ready reserve Corps.

Doctrinal Implications

The current FM 100-5 provides the philosophical vision for the US Army. As the Army prepares for missions and tasks expected in the years to come, there are certain doctrinal implications to be absorbed. Most importantly, continued emphasis must be placed on joint and combined operations. The Army must continue the development of tactics and techniques to integrate and synchronize US Air Force, US Navy, and other nations' lethal weapon systems, both sur-

Challenge

face-to-surface and air-to-surface, with US Army operations at the tactical level.

The Corps assumes the CSS responsibilities of the former Theater Army. Doctrine and techniques must be adjusted to accommodate streamlined combat service support operations. With the support of the microprocessor, the size of support echelons may be significantly reduced.

The Division becomes the operational centerpiece of US Army operations. Synchronization of deep and close operations can be done by that headquarters. Divisions, with their Brigades, must be able to operate under US Air Force, US Navy and multinational commands. This will require training of the Division Headquarters.

Greater emphasis must be placed on use of standoff weapon systems to destroy the enemy's capability to conduct combat operations before maneuver closes with and destroys the remaining enemy capability and occupies the ground.

Task organizing for a wide variety of missions described elsewhere in this paper must become routine. Provisions for self defense and sustainment must be included.

Training

Training implications are driven by operational, doctrinal, and organizational modifications. To prepare for joint combat operations will require more time. To gain the time needed, it is necessary to train weapon systems crews more rapidly using sophisticated simulators. Then it is necessary to train staffs to integrate and synchronize available US Navy and US Air Force lethal weapon systems in support of Army combat operations and to do this at both the operational and tactical level. This will require simulations. Divisional staffs must also know how to operate under the operational control of US Navy and US Air Force JTFs. In order to be prepared to operate in joint operational environments, it is necessary to train in a joint environment.

It is also necessary to train for a wide variety of missions across the broad spectrum of operations previously described. Much of this mission training is most applicable at Brigade and Division Headquarters, for example, peacekeeping, different types of security missions, and humanitarian relief, while the Battalions concentrate on their traditional special expertise. While simulation has applicability at all levels of command, simulation in the areas just described gains added significance. It can optimize use of lessons learned from previous experience. This is also true when training for operations with multi-national forces.

Leadership Implications

As just described, the Army must be prepared to conduct a variety of missions during the next decade. It is equally uncertain where they may be conducted and with and against whom.

Other than coping with doctrinal changes described above, the most important impact on leadership is the challenge of training Army units to operate in a changing world environment, requiring unfamiliar missions and new tasks.

Materiel

Changes wrought by technology will take place in spite of reduced budgetary support. In this period of change and refocused national priorities, the Army cannot only maintain, it must improve its facility to harness the power of technology. The Army must directly strive to leverage technology in the short term to:

- Enable the Army to dominate operations in the night and bad weather.
- Have battlefield awareness.
- Identify friendly forces operating on the battlefield
- Develop planning aids to enable commanders to plan while deploying to an operational area and to replan while on the move.

- Provide for tactical missile defense.
- Improve training simulation systems to save time needed to train.

Conclusions

- √ The Corps assumes the role of the former Theater Army and is trained and organized to assume the role of a JTF HQ.
- √ The Division becomes the operational centerpiece of the Army and is prepared to act as the ARFOR where appropriate.
- √ Divisions are not fixed. They are organized to provide command and control for a mixture of Battalions to accomplish specific tasks.
- √ Brigades are task organized to provide a multitude of capabilities.
- √ Weapon responsiveness, employment of standoff weapon systems, and tactical missile protection, both Army and those of other services, must be increased to minimize the risk to soldiers during combat operations.
- √ Combat service support tail must be tailored to support the task organized force.
- √ Additional theater level support forces are placed in the Reserve Components to be mobilized and trained if necessary to confront a resurgence of a large land threat.

Chapter 4

Doctrine

The new FM 100-5 points the philosophical way for the operating Army in the next 5-10 years. As the Army continues to adapt to a changing world, together with changing missions and capabilities, doctrine must be continuously updated to ensure that the Army sets the lead in determining how it will operate in the field.

Overview

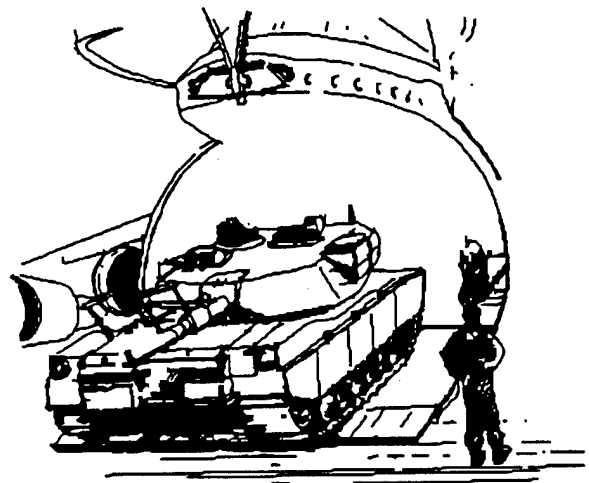
The Army's doctrine provides guidelines for the execution of the National Military Strategy and guides policy in such areas as training, force design, modernization, personnel, and logistics. In combat, doctrine guides tactical and operational activities and the development of tactics, techniques, and procedures. The centerpiece of Army doctrine is Field Manual 100-5, Operations, last published in 1986. The manual is currently under revision and a review of the drafts indicates that the proposed doctrine will provide the philosophical way for the operating Army over the next 5 - 10 years as the Army moves into the 21st Century. The ideas and concepts provided in this study fully support this doctrine.

As the Army continues to adapt to a changing world together with changing missions and capabilities, doctrine must be continuously updated to ensure that the Army leads in determining how it will operate in the field. This is particularly important as the Army revises its family of manuals which describe doctrine, tactics, techniques, and procedures for its echelons of command, in accordance with the revised FM 100-5.

Organizational and operational concepts must optimize the interaction between modern technology and the unique attributes of the American Soldier operating in a joint, combined, coalition, or uniservice command structure to ensure that the American technological edge translates to a qualitative military edge. Consequently, continued emphasis must be placed on joint, combined,

and coalition operations. Specific tactics, techniques, and procedures must be developed to integrate and synchronize the mobile firepower of the US Air Force, US Navy, US Marine Corps, and other coalition forces and to make this firepower tactically relevant.

With the Corps assuming many of the responsibilities of the former Theater Army to include EAC logistical functions, doctrine and TTP will need to be adjusted to accommodate streamlined combat service support operations. C2 doctrine and TTP need to reflect the role of the Corps as JTF Headquarters and how the Corps augments the Division when it functions as the USARFOR element in a JTF.



The Division becomes the operational centerpiece, synchronizing operations to a greater degree than previously done when operating as part of a US Corps. Divisions and Brigades must also have doctrine and TTP for operating under US Air Force, US Navy, and combined or coalition command structures.

Requirements

While the latest version of FM 100-5 is a tremendous start, renewed emphasis is needed on the *jointness* of joint doctrine. The *jointness* of current Service publications reflects the particular Service's views on joint operations and while it may have been discussed or even coordinated with the other Services, each publication is still a single Service product. It reflects that Service's views on joint operations. To be truly joint, the doctrine must be *jointly* developed and written from the beginning. This is much more effective than coordination after a doctrine has been postulated and formulated. The Joint Warfighting Center initiative, with its Joint Doctrine Center, is a project that needs to be successful. This will tie in the Service doctrine centers in a truly joint effort to conceptualize and assess current and future joint doctrine.

With the capstone now firmly in place, significant effort should be devoted to rapidly promulgating the overarching doctrine into the manuals and other publications addressing the various force echelons, with particular emphasis on the tactics, techniques, and procedures (TTP) needed to successfully execute the doctrine in practice. The lessons learned from recent operations need to be better captured and codified, so that they may be put into practice and internalized by the current and future generations of Army leaders. The length of time needed to institutionalize and internalize a revised doctrine is well known; the sooner the process is started, the better prepared the Army will be for future missions and operations.

Further development should also be focused on the pre- and post-operations phases of a mission. Specifically, doctrine and TTP for mobilization and deployment on the front

end and conflict termination and reconstruction on the back end need to be thought through and further developed. The Army's warfighting knowledge and skills are sharply honed and kept that way through a rigorous training program. That same emphasis is needed on the non-combat phases of operations, to include thorough training on these phases as part of the CTC methodology.

Summary

- ✓ The new edition of FM 100-5 provides a solid capstone doctrine for the Army's transition into the 21st Century.
- ✓ Joint doctrine needs to be developed jointly from the outset.
- ✓ Implementing doctrine and TTP for subordinate force echelons needs to be developed and implemented in a timely manner.
- ✓ Doctrine and TTP for the pre- and post-operations phases of missions needs to be further developed and promulgated.

Chapter 5

Organizations

The Division becomes the operational centerpiece C² structure with attachment of tactical executors based on mission need and will be the primary Army component of the JTF, providing the USARFOR HQ's element, augmented as necessary by the Corps. Echelons Above Corps are minimized, with the Corps being the highest operational headquarters; the Corps itself forms the JTF HQ for an Army-predominant JTF.

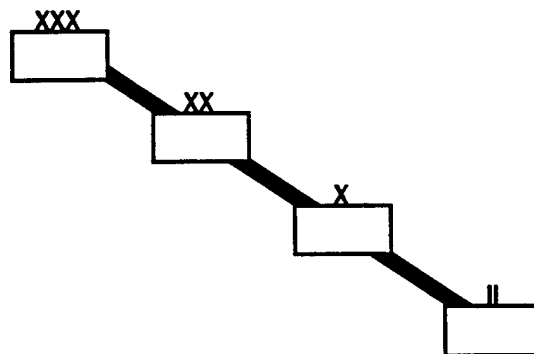
Overview

From the historical perspective, many past reorganizations have focused on those echelons, usually Brigade and below, least experienced and equipped to manage and control structural change. These reorganizations have caused a significant amount of turmoil at the respective echelons as leaders and soldiers struggled to redistribute old equipment or field new equipment, transfer personnel, assimilate new doctrine and tactics, techniques, and procedures, and then put this all together in field exercises to gain mastery of the new organizational principles. Each soldier who had been away from a Battalion for any period of time faced a tremendous hurdle upon returning to familiarize and refresh tactical and technical skills and become a productive team member.

The current combat Battalion structure has been relatively stable for the last ten years now and the same is true, although to a lesser extent for combat support and combat service support units. The organizational structures have been proven in combat during Desert Storm and also in operations short of war. With little likelihood of major new equipment fieldings until well into the next century, it would appear that formations at Battalion and below are well organized and need no further significant change for the immediate future. Some minor fine-tuning may be necessary, but nothing major on the scale of the conversion from H to J-series TO&Es.

Another consideration is the disappearance of large, land based threats and the concomitant necessity for large formation warfare. This has been replaced by the need for a more flexible, mobile Army capable of moving rapidly to counter any of a broad spectrum of lesser threats in a wide field of potential theaters of operation. Simultaneously, fiscal realities constrain the force structure as the Army reduces the number of Divisions and other formations to meet a drastically reduced end strength. In this time of rapidly changing missions and resources, what the Army needs is a structure and force composition which is not more for less, but one which can not only fight a lesser size battle or land campaign, but also respond to lesser, more ambiguous missions with ease and simultaneously be prepared to reconfigure for the large fight.

All of these points favor moving the operational focus down from the Corps to the Division level. The Division is a much more



flexible organization, which if structured soundly, can respond in timely fashion to the range of threats and missions anticipated in the next ten to twenty years with a more efficient application of scarce resources. Given a more flexible structure, the Division offers the capability to easily task organize for specific operations, while retaining its elasticity — the ability to rapidly reconfigure to its original structure for larger scale operations.

The remainder of this chapter presents a proposed structure for the 21st Century which is an objective force to be tested within the framework of the Louisiana Maneuvers and Battle Labs and refined based on the outcomes to ensure that the final structure matches anticipated missions and resources for the future. The force will be examined, echelon by echelon, to develop the base case for further examination, evaluation, and refinement.

Echelons Above Corps

The new strategic and operational realities remove most of the philosophical underpinnings for large TO&E EAC headquarters. The Field Army as presently envisaged is eliminated based on the diminishing requirement to command and control large, multi-corps operations. In the future, the most likely scenario requiring more than a single Corps would probably occur within a coalition framework, leading to an ad hoc coalition headquarters. The US contribution would most probably be a JTF with a single Army Corps. With only one multi-corps operation in the last 40 years, the requirement for a standing Field Army headquarters is obviated.

Likewise, the need for large, standing Theater Army headquarters has been eliminated by the new realities. Certainly, a command and control organization for theater support wherever the US maintains forward deployed forces is necessary; however, the reduced magnitude of these forces will dictate a reduced command and control organization as the number of EAC CSS units diminish in each of the forward deployed theaters.

The most likely successor to the Theater Army will be based on the Operation Restore Hope model — a JTF Support Command, task organized to provide joint, common item sustainment to all U.S. forces, as well as full support to Army forces, in the theater of operations. The JTFSC headquarters will be a small, tightly knit organization, equipped to deal with joint logistics, interface with the JTF headquarters and the CONUS sustainment base, and provide command and control to a limited number of sustainment executors based on the theater population.

The combat support and combat service support units normally found at EAC will remain effectively the same organizationally, but in reduced numbers overall as the Army itself downsizes to meet new end strength limitations. Current concepts will apply with the basic building block remaining the Company, task organized under Battalion and Brigade-equivalent headquarters to furnish EAC combat support and combat service support.

Corps

The Corps becomes the highest operational and logistical headquarters for both joint and combined operations unless a major land threat emerges. Its focus now is more that of planner, coordinator, and provider while the Division becomes the prime operator. The Corps headquarters will be the nucleus for an Army-predominant JTF, furnishing the JTF HQ with augmentation from the other Services as required based on the situation. In this role, its primary mission is to provide operational guidance and tactical resources to the Division, while also providing the means and interfaces to make strategic systems tactically relevant.

The Corps may also assume the logistical responsibilities previously found in the Theater Army since the size of the forces expected to be supported most often will not warrant a separate Theater Army headquarters. The Corps Support Command may function as the senior logistics operator in the theater or share these duties with the JTF Support Command as required. The

Organizations

COSCOM units at Brigade, Group, and Battalion will remain essentially unchanged from present structures.

Corps Troops will also remain essentially unchanged with the exception that the Corps will now most often place more of these units under the operational control of the Divisions as the operational focus now devolves upon that echelon.

Division

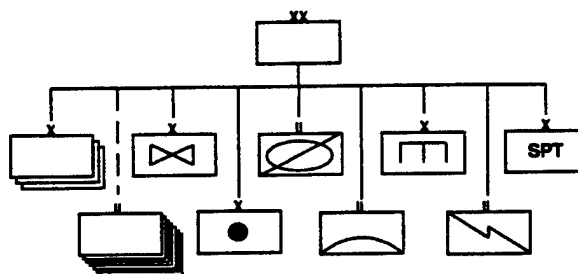
As stated, the Division now becomes the operational centerpiece and its organization will change accordingly. The Division should be the primary Army component of a JTF, providing command and control for the forces needed to accomplish any mission short of a large, major conflict. It will also function as USARFOR headquarters with the necessary augmentation from Corps.

The Division will have no permanently assigned operational units except the Division Troops. In peacetime, combat Battalions are attached for training, administration, and maintenance; in wartime or for contingency missions, each Division should have no less than seven combat Battalions available, the exact number being dictated by the assigned mission. Given the increased lethality and mobility of the combat Battalions, augmented by combat multipliers previously held at Corps, and coupled with an increased knowledge of the enemy situation and actions made possible by modern intelligence systems, the Division commander is now better able to concentrate his force's effects in time and space to achieve the desired operational effect.

This then is the most significant force structure change at the Division level. The reduction in the number of combat Battalions will make the Division more efficient, agile, and mobile without a significant decrease in operational lethality. Additionally, if the authorized force structure permits ten currently configured Divisions, reducing the number of Battalions to seven per Division provides 30 Battalion equivalents which would facilitate the formation of at least two

additional Divisional C² structures within the same overall end strength limitation.

The basic structure remains intact — three Brigade headquarters, an Aviation Brigade, Divarty, DISCOM, and Division Troops. The combat multipliers of aviation, artillery (tube and rocket), signal (suitable to support USARFOR HQ responsibilities), engineer, air defense, reconnaissance, and battlefield support mechanisms will provide flexibility of force to the Division operating forces.



Although provided three maneuver Brigade headquarters, it is important to note that the Division may not deploy in this exact configuration. The Division retains the flexibility to task organize efficiently to meet the operational requirement. For example, in a basically humanitarian, nation building operation, the Division may be organized and deployed with additional Engineer, Medical or Military Police Battalions under command of its three maneuver Brigade commanders. The DISCOM and remaining Division Troops must be flexibly organized to support such possibilities with only minor external augmentation.

Brigade

The Brigade is the Division's principal subordinate command and is the level of tactical control to get the job done. Organizationally, it is basically unchanged from the current structure. The Brigade has been typically task organized with two to four combat Battalions, supported by a Forward Support Battalion. The requirement of tomorrow is for Brigades to be organized to conduct operations independent of Division supervision and support when necessary. When this is the case, they must be organized to provide

for their own self-protection, as in the case of air defense.

For the new environment, the Brigade may be task organized in a new, non-traditional manner, commanding a mix of Battalions other than the usual combat Battalions. It could conceivably deploy for a humanitarian mission with a Medical Battalion, Engineer Battalion, Transportation Battalion, and a Civil Affairs Battalion. Therefore, like the DISCOM, the Forward Support Battalion must be capable of supporting a wider variety of units with little external augmentation.

Battalion

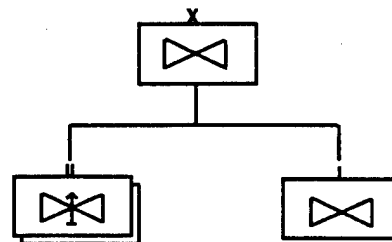
Battalion and smaller organizations have been reorganized and reoriented several times over the last 40 years in order to meet operational requirements of the times. The basic combat Battalion structure today is sound and has been proven across a spectrum of operations from Desert Storm to Restore Hope. In the absence of any major equipment fieldings, there should be no further restructuring at this echelon. The combat Battalions function very well, have staying power, are understood by the leadership at all levels, can do their specialized jobs, and have a recognized and sufficient lethality for their size.

As described above, the basic building block of the Army for creating force packages is the Battalion for combat and combat support forces. The Department of the Army owns all Battalions and assigns them to various Divisions for command and control as the situation warrants. Normally, combat Battalions would be assigned, but now additional type Battalions may be provided; the exact number is dependent upon the specific requirements of the anticipated mission. The Division may further attach the Battalions to the maneuver Brigade headquarters or one of the other Division C² HQ to support the operational plan.

Aviation Brigade

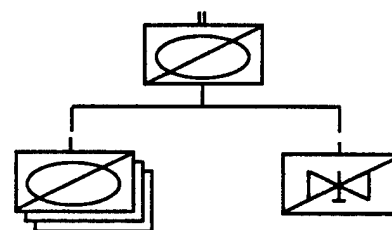
The divisional Aviation Brigade remains essentially unchanged, but with two Attack

Helicopter Battalions and an Aviation Company. This in itself would be an optimal use of the Louisiana Maneuvers process to prototype the objective aviation structure for the Division.



Cavalry Squadron

The Squadron reverts to its former configuration of three ground Troops and one air Troop, under direct command of the Division HQ. The Air Recon Troop would be configured with eight armed OH-58D aircraft, while the ground Troops reincorporate the main battle tank as part of the organization. While this may be viewed as a return to the past, and it does reflect the organization of the immediate post-Vietnam era, the increased ground combat power is necessary to provide a greater degree of security in reconnoitering as well as in protecting the force as a whole. Adding the tank and an extra ground Troop increases the staying power of the Squadron and permits the Division commander greater flexibility in task organizing.

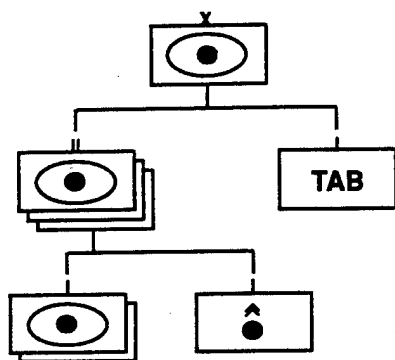


Division Artillery

The Divarty is reorganized to increase the number of MLRS launchers and ATACMS capability by substituting composite MLRS/155mm Battalions for the current Battalions. This increases the reach and amount of firepower under the direct control

Organizations

of the Division Commander to match his new role as the Army's principal battlefield operator. Each composite Battalion has two howitzer Batteries with eight 155mm howitzers each and a MLRS Battery with nine launchers. The increased lethality and accuracy of current munitions, together with the imminent fielding of Palladin, ensure there is no overall reduction in Divarty's capability to provide accurate, lethal fires in support of the Division commander's plan.

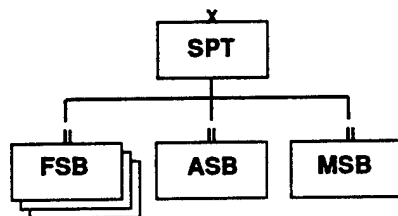


Engineer Brigade

There is no substantive change to the Engineer structure, which retains its three Battalions.

DISCOM

The Division Support Command is restructured to add an Area Support Battalion in addition to the existing Main and Forward Support Battalions. Give the great likelihood of increased geographical areas of responsibility and attachment of a wider range of supporting units to the Division, this extra Battalion provides the increased flexible support capability needed to adequately sustain the force under this concept.

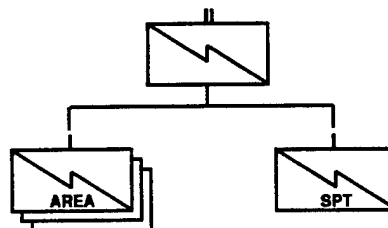


Division Troops

- **ADA Battalion.** The basic structure is retained, while the mix of weapons is altered. The Vulcan air defense gun is replaced by the Avenger gun-missile system; the Stinger missile teams are also retained.
- **Chemical Company.** Unchanged.
- **MI Battalion.** In solving the requirement to make strategic systems tactically relevant, the structure of the MI Battalion will change to add greater capability to provide terminal downlinks from national systems at locations supporting the Division C2 system. The types, quantities, and locations of these downlinks require further analysis, again an ideal task for the Louisiana Maneuvers process. One complementary issue requiring resolution is the degree of classification and access necessary as increased, potentially sensitive, intelligence sources proliferate the Division area. The system must be flexible and responsive to the Division commander and his key assistants in the decision making process.

- **MP Company.** Unchanged.

- **Signal Battalion.** The potential for increased operating distances, greater mobility, and joint interfaces drives the requirement to augment the Signal Battalion significantly, particularly when the Division functions as USARFOR HQ. Lessons Learned from Operation Restore Hope show that the requirement for joint interfaces and USARFOR HQ support are the most significant. The increased base capabilities include six nodes of MSE, tri-band satellite terminals, and an increased systems control capability, such as that furnished by ISYSCON.



Reserve Component Force Structure

All changes in the Active force structure must be mirrored in the Reserve force structure to ensure full commonality and minimize post-mobilization training requirements. There are two other considerations deserving further study. With the reduction in the Active force, there is an increasing need to organize an Reserve Component Corps HQ, both as an ancillary capability to augment the AC force structure in case of a larger scale threat and as a command and control headquarters for assisting RC Divisions and Separate Brigades in the mobilization and deployment processes. As AC units, including higher headquarters units deploy, there is a need to backfill the lost assistance capability to support later deploying RC units. This Corps HQ would be responsible for readying its attached Divisions and separate units for mobilization and deployment, and would then itself deploy if needed. This assistance is much needed as "...the general guidelines for post-mobilization training time are 90 days for a combat Brigade and 365 days for a Division."¹⁶

The second consideration is that any combat Battalions being removed from the AC force structure should be retained in the RC force structure in an appropriate RC Division. They would be designated for a specific AC Division during mobilization for the large land combat threat, with the RC Division responsible for reconstituting the departing Battalions. It is appropriate that these designated Battalions be commanded by AGR or AC battalion commanders due to their high priority for mobilization and deployment.

Summary

This chapter presented a short outline of the major force structure changes required to lead the Army into the 21st Century. The significant change is the focus on the Division as the operational centerpiece with Corps handling the primary joint interfaces and JTF responsibilities as required. Lower echelons are shielded from the turmoil ac-

companying reorganizations and are basically unchanged.

The following are the key proposals made:

- ✓ The Corps should be the highest operational and logistical headquarters for both joint and combined operations unless a major land threat emerges.
- ✓ The Corps HQ will be the nucleus for an Army-predominant JTF and provide the USARFOR HQ supplementary personnel and forces to those JTFs headed by the other Services.
- ✓ The Division, with its three operational Brigades, should be the primary ARFOR component of a JTF and becomes the operational centerpiece.
- ✓ The Division will have no permanently assigned operational units except for CS and CSS. It could be assigned at least seven combat battalions depending upon the operational mission.
- ✓ The Brigade places demands on higher headquarters for the assets it needs to accomplish its assigned tasks.
- ✓ The basic building block of the Army for creating force packages is the Battalion for combat and combat support forces, and the Company for combat service support forces.
- ✓ The combat Battalions function very well and should not be reorganized.
- ✓ The combat Battalions being removed from the Active Component should be retained in the Reserve Component force structure in an appropriate RC Division.

Chapter 6

Training — Battle Focus-Plus

Current training doctrine and principles very appropriately focus our Army on the most dangerous threats to US national security. Changed superpower relationships and the regionalization of threats, coupled with requirements for flexibility in force structure, require that the Army continue the modernization of its approach to training. The discussion that follows reflects evolutionary, rather than revolutionary, changes to a system that has served us well.

Introduction

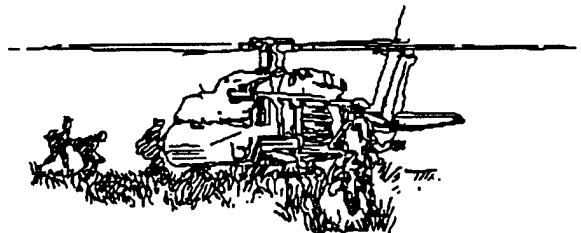
In the midst of changing from a threat-based, forward deployed Army to a capabilities-based, force projection Army, training will remain the glue that binds individuals and organizations together into a cohesive and effective force. The need to operate in multiple environments laden with uncertainty and complexity and to operate with unique combinations of forces and with agencies outside Department of Defense will challenge our training system.

As the Army seeks ways to meet these new training challenges, it must embrace those principles of training primarily developed and made a matter of routine over the course of the last ten years. But it must also adapt to a new environment and new missions. That new environment and the new Army missions require a Battle Focus-Plus approach to training. Battle Focus for the primary purpose; plus to do those tasks that enhance deterrence and movement toward democracy. Training aids (read simulators and simulations) must permit soldiers and units to efficiently and more quickly learn combat skills so as to permit the use of the additional time to learn the new complexities of mixed force and mission operations.

Regardless of the many challenges presented by the new environment, tough, realistic, battle-focused training must continue to be our bottom line. Now more than ever, our training system must produce soldiers, leaders, teams, and combat, combat support, and combat service support formations that:

- Achieve land dominance by conducting combat operations over large distances with speed and ferocity such that there are no friendly casualties.
- Exercise initiative, judgment, and problem-solving experience when the situation is vague and doctrine falls short of an answer.
- Adapt organizational structure and training priorities to meet the demands of rapidly changing environments and missions.
- Demonstrate versatility at all levels, shifting with ease to meet multiple and unknown threats.
- Provide a means for joint and combined capabilities to be rapidly available at the tactical level.

These imperatives, coupled with sound doctrine and a solid understanding of new missions and operating environments, must be the foundation for individual and collective training at all levels. They must continue to



broaden the focus and structure of our training centers, battle staff simulations, and the curricula of our service schools.

To determine future training requirements, we must focus on operational issues in a variety of ways:

- The essential combat, area security, and service tasks which Divisions and subordinate organizations must perform.
- Those non-direct combat mission tasks that have unique training requirements.
- The specific training strategy and tools that will best prepare them to perform those tasks.
- The requirements for support of that strategy.

The Tasks — Combat-Plus

Battle Focus-Plus has significant implications for how we view essential tasks. Not only must the Army fight, but it must also provide a variety of support services under a variety of conditions. Division commanders and staffs must focus training on those essential tasks associated with operating in peacetime engagements and conflicts short of war, as well as war. That requires a step beyond the current framework of deriving mission essential tasks from wartime missions that relate primarily to combat operations in a given theater against a given threat. In addition, the new essential task list for the Division must encompass operations other than war, must include tasks related to operating with other Services and federal agencies, and must be consistent with a force projection military strategy. In short, it is a Capabilities Essential Task List (CETL), reflecting the myriad of capabilities expected of the new Division.

As the Division CETL becomes more complex, essential task lists for Battalions and Companies must remain relatively simple — focusing on the traditional tasks expected of executing units. At Battalion and Company level, we emphasize those core tasks common to the various environments and mis-

sions — deployment, movement, combat and support tasks, and problem solving. We thus gain our flexibility of capabilities through the mix and match of Battalions.

The Strategy — Multiechelon Training Revisited

The Army has long recognized that multiechelon training is the most effective and efficient way to train individuals, leaders, and units at all echelons during training events. As the Division replaces the Corps as the Army organization that sits on the line between the tactical and operational levels, multiechelon training takes on a whole new dimension at Division level. The Division will no longer be a fixed organization, but a C²I, as well as a logistics support, organization that uses a variety of lethal and non-lethal Battalions, in groupings, via the expertise of Brigade commanders. Division and Brigade commanders and staffs are very adept at packaging combat forces for combat missions. In the future, we will expect the additional capability to package a wide variety of Battalion-sized organizations for traditional and nontraditional missions. The new dimension of multiechelon training includes training that integrates tactical and operational planning. It includes new “lateral echelons” such as sister Services and agencies outside the Department of Defense. Finally, it includes echelons represented by the various battlefield awareness and fire support systems that will move their effects from the Corps generating level to the Division level. The principle of multiechelon training thus becomes significantly more complex and more critical than ever before. The key to multiechelon training for the future is development of Army-wide common training scenario programs that:

- Replicate the various operational environments and all their complexities.
- Exercise all lethal and non-lethal systems available to the flexible Division structure.
- Move the Division and all subordinate elements through deployment as well as

Training

multiple strategic environments and missions.

- Exercise the operational and tactical levels simultaneously.
- Integrate players from other Services and agencies outside Department of Defense.
- Use technology and a revised concept of Combat Training Centers to bring soldiers, leaders, and simulations together on a dynamic, multidimensional, and realistic field of operations.
- Serve as the basis for a Joint Task Force Battle Command Training Program.

This scenario defines the Division's capstone training event. In preparation for that event, Division and Brigade command-staff teams along with a mixture of subordinate units must focus training on the unique value each level will add to the overall success of the Division.

The Division Command-Staff Team. The unique value that must be added at the Division level requires development of a number of individual and collective capabilities. The Division command-staff team must train to proficiency on:

- Application of operational art — envisioning the desired end state, and sequencing and resourcing activities to reach that end in those operations involving commitment of only one Division. This involves translating strategic aims into tactical objectives.
- Synchronization of new "battlefield awareness" systems and effective processing of data from those systems to provide usable information.
- Synchronization of much more complex and diverse operating systems, from joint and combined partners, than were available to the Division in the past.
- Task organization for operations across the continuum. This must include the capability to accept combat, combat

support, and combat service support units from other services and other Divisional organizations.

- Decision making in a joint and interagency environment.

The Brigade Command-Staff Team. The unique value added by the Brigade command-staff team will center on its ability to command and control combinations of very diverse Battalions and Companies, rapidly adapting to new combinations. Composition of the Brigade will vary depending on the strategic environment and mission, and may, for example, be composed of one maneuver Battalion, one MP Battalion, and one Engineer Battalion. New training requirements for the Brigade command-staff team therefore revolve around flexibility and adaptability in command and control of various combinations of subordinate units.

Battalions and Companies. The unique value added by our Battalions and Companies has always been, and must continue to be, their focused expertise in the various branch functions we associate with each Battalion. To maintain this strength, stability in the training environment of our Battalions and Companies must be the rule. Battalion and Company training must incorporate some new training that addresses the relevant aspects of changing environments and missions, and the potential for operating under various, and sometimes very stringent, rules of engagement. However, the training focus at Battalion and Company level must be developing individual and collective competencies in those core tasks associated with the type Battalion.

Support Requirements

Although much support is required to implement this training concept, from revision of Mission Training Plans to writing common training scenarios, the principal support must come from our service schools and training centers.

Institutional Training. All of the Army's service schools must, at a minimum, incor-

porate the changing roles and missions of the Army, the capabilities and limitations of other Services and federal agencies, and the changing strategic environment into their curricula.

The most significant change must be in those institutions responsible for equipping officers with the skills and knowledge necessary for field grade command and principal staff positions — the Combined Arms and Services Staff School (CAS³) and Command and General Staff Officer Course (CGSOC) or equivalent. These institutions prepare the Army's Captains and Majors with the analytical and decision-making skills required at Battalion and higher command and staff positions. The changes embodied in the phrases "lethality-plus" and "battle focus-plus" training call for changes to the curricula at these two institutions.

The CAS³ curriculum must reflect the change to a force projection Army that "fights" and performs in peacetime engagements, hostilities short of war, and war. This can be accomplished by incorporating relevant parts of the Army-wide common training scenario to be used in field training of Divisions. Although CAS³ does focus on generic problem solving and decision making skills, the emphasis should continue to be on preparing officers for service at the Brigade and Division level.

CGSOC must focus on decision making and problem solving at the Division and Joint Task Force level. Strong emphasis should be placed on the synchronization of all the lethal and non-lethal systems found in the new Division. Officer students must acquire the skills necessary to become competent staff officers who operate at both the tactical and operational level in all strategic environments. The simulations used in the field will then assist commanders in bringing together the staff team.

The School for Advanced Military Studies (SAMS) will need to change to a lesser degree, focusing more on the non-traditional, non-combat mission possibilities and their implications at the higher echelons of com-

mand. The requirement for the continued study of large unit combat operations is essential to maintaining the capability to rapidly readjust focus in the event of a new large land threat.

The Army War College (AWC) will change only slightly as its curriculum shifts more emphasis towards examining the new world political environment and its impacts on military operations, both traditional and non-traditional. Perhaps the most significant impact will be on how the Army revamps its force structure design process to correspond with the new world realities.

Combat Training Centers. The Combat Training Centers must become Operational Training Centers — placing units and large formations in situations that replicate the new operational environment and the roles and missions of the Army. These centers will operate from the Army-wide common training scenario. The move towards "dial-an-OPFOR" is appropriate to prepare soldiers and leaders for the various challenges they will face around the globe. "Opposing Forces" at the training centers must approximate the diversity of threats the Army can expect to see in a variety of theaters.

These Operational Training Centers must enable organizations from Company to Division level to operate in a realistic environment. That requires the decentralization of the various simulations the Army currently offers to Division-level commanders and staffs. And it requires mobile simulations that permit commanders and staffs to operate on the ground with many of the subordinate units being portrayed in the simulation, or real, as the need may be. It also requires the integration of other Services and elements of other federal agencies — either real or simulated. The Combat Training Center played a critical role in preparing our soldiers and leaders for the challenges of combat. The new Operational Training Center will play an equally critical role in preparing our soldiers and leaders for the challenges of the future.

Conclusion

The Army's training doctrine and support concepts and systems are sound. The future strategic environment and the Army's roles and missions in that environment do require that we rethink our concepts of essential tasks and how to accomplish multiechelon training. Through emphasis on the development of the battle staff simulations and the development and utilization of an Army-wide common training scenario that replicates the new environment for all echelons from Company to Division, the Army will meet the challenge of Battle Focus-Plus Training.

Doctrine. The new FM 100-5 begins the doctrinal change process that flows from the changed national security environment and changes in force structure and organizational functions. In support of the changed operational doctrine, changes to Army training doctrine must include:

- ✓ A new approach to Division and Brigade level tasks. These tasks must reflect the capability to operate in various environments, from peacetime engagement to war, and must reflect the increased capabilities to synchronize multiple lethal and nonlethal systems.
- ✓ A broadened perspective on multiechelon training that incorporates "lateral echelons" such as other Services and other federal agencies. This perspective must also allow for the incorporation of new lethal and nonlethal systems at the Division level. Finally, it must bring together the tactical and operational levels of war along with operations other than war.

Training Centers. The Army's concept of Combat Training Centers must include:

- ✓ Expansion of the CTC philosophy to replicate all strategic environments and to accommodate joint and interagency training events. Increased use of simulations to exercise all operating systems.

- ✓ The development of a JTF Battle Command Training Program, or *Joint BCTP*, to permit expanded joint service training opportunities.

Educational Institutions. All Army educational institutions must make changes to reflect the changed environment and new roles and missions of the force. The principal changes must be in the curricula for CG-SOC and CAS³. The changes suggested in this paper include increased emphasis on:

- ✓ Synchronization and integration of complex systems — both lethal and non-lethal.
- ✓ Operational art and the relationship between the operational and tactical levels of war and operations other than war.
- ✓ Decision making in a joint, combined, and interagency environment.
- ✓ Task organization and incorporating assets external to the Division, consistent with the notion of a capabilities-based force and the new structure and functioning of Division level organizations.
- ✓ Integrating joint and combined capabilities as combat multipliers at the tactical level.

Chapter 7

"Lethality-Plus" Leaders

The current Army Leader Development System can easily adapt to the challenges inherent in the changing national security environment. That system must build on its current solid foundation while providing for development of the unique knowledge, skills, and attitudes required of leaders in the new variable world environment.

Introduction

Dramatic changes in the world environment, evolving national security interests and objectives, changing views on the role of the Armed Forces, and force reductions all come together to portend significant changes in the expectations our nation will have for military leaders. To the extent the Army can predict which directions those changes will take our force, Army leaders can, and must, now set into motion systems, programs, and policies that will meet the developmental needs of individual leaders and command-staff teams in the future.

The changes that will occur in the Army over the next several years will affect leaders at all levels. But, it is imperative that the Army minimize the impact of these changes on the NCO corps and the officer corps through the company-grade years. The current NCO and junior officer leader development systems will require only slight modifications to adapt to the changing environment. Therefore, the central theme of this chapter concerns developing the "lethality-plus" commander and staff officer at Brigade and Division level. The chapter begins with a review of major leader development studies since 1978 and then summarizes the changes to the operational environment and Army missions. It addresses leader development challenges represented in the phrase "lethality-plus" and concludes with a discussion of meeting that challenge. The current Army leader development framework is sound, and has served our soldiers, leaders, Army, and nation well. The intent of this chapter is to highlight modifi-

cations to the current system for certain level leaders demanded by the new environment.

Leader Development Since The '70s

Recognizing the imperative for developing a competent and confident officer corps, the Army has historically expended tremendous resources on coming to grips with the training and educational needs of its officers. Since 1978, three studies have significantly influenced officer development — A Review of Education and Training for Officers (RETO), The Professional Development of Officers Study (PDOS), and The Leader Development Study (LDS). A brief review of the purpose and impact of these studies is necessary to set the historical context for this chapter on officer development.

RETO. The Review of Education and Training for Officers (1978) focused on officer corps development for the '90s.



The mission of the study group was to look at all aspects of officer professional development — focusing the post-Vietnam era Army once again on the European environment and the Soviet threat. The group was charged with determining officer training and educational requirements based upon Army missions and individual career development needs. Out of RETO came the officer development organizing framework we still have today — a framework consisting of self-development programs, institutional training, and training in operational assignments. Additionally, the notion of a sequential and progressive system of development has its roots in RETO.

Outcomes of this study currently having significant effect include the Pre-Command Course and the Combined Arms and Services Staff School (CAS³). Additionally, the study set us on a course where our response to technological advances was specialization in the officer corps — a course which may have cost the Army in terms of developing our ability to integrate the various operating systems. Finally, the authors articulated an increasing need for emphasis on conceptual skills at senior leader levels. It would be six years before the Army extensively revisited leader development.

PDOS. The Professional Development of Officers Study (1984) concentrated on education and training for officers to the year 2025. It introduced the notion of seven increasingly complex frames of reference corresponding to seven developmental periods ranging from Cadet to senior General Officers. The notion of frames of reference added significantly to our understanding of sequential and progressive development. One assumption made in PDOS was that the total value of the officer corps to the nation, then and in the future, was in its ability to meet the demands of combat. In 1984 that was an appropriate assumption. Today it is not.

Some of the most significant contributions of the PDOS group were their observations on weaknesses in the officer development system. Focusing on the institutional train-

ing pillar of officer development, the group noted that it:

- Lacked top to bottom coherence.
- Was not a unified system but a series of loosely joined training processes.
- A major portion of resident course schooling focused on perishable data and information and spent too little time on improving cognitive ability, decision-making skills, and officer frames of reference appropriate for their developmental period.

These observations should continue to be part of our dialogue on officer education.

LDS. The Leader Development Study (1988) was a follow-on study to PDOS. The authors' mission was to assess leader development in the Army and to determine any actions necessary to keep the Army on course for the next 10 to 15 years. Numerous recommendations were made by the study group and formalized in the Leader Development Action Plan (LDAP). Important to this chapter is that LDS defined the problem in terms of fighting a numerically superior force with technological parity. Particularly interesting was the study group's observation that PDOS was still relevant, but that many of the findings had "slipped away", some of the programs had lost momentum, and some were never implemented.

As the Army leans forward and peers into the future, its leaders must carefully and thoughtfully continue the examination and emphasis on leader development policies and programs — building on the strengths of past good work, while at the same time changing course where necessary to meet the future developmental needs of the officer corps. National security interests and the expectations of the American people define those developmental needs. In the past, the Army mastered the domain of "lethality." In the future, the Army must master the domain of "lethality-plus."

Challenges For Tomorrow's Leaders

RETO and PDOS appropriately focused our Army on meeting the demands of combat primarily on the European battlefield. No one could predict the dramatic changes in the world that left our Armed Forces standing in Europe, all dressed up and ready to fight, but with no one to fight. When our fighting adversaries took their force and went home, announcements of new security needs for various regions of the world began arriving.

"The Future Ain't What it Used to Be."

Changing superpower relations, the diversity and regionalization of threats, the unpredictability of various international actors, changing perceptions of the role of military forces in a democratic nation, changing world views on national sovereignty, and the role of international institutions such as the United Nations are all forces that will stretch the officer corps of our Army as they have rarely been stretched in the past. Although the prospect of fighting a numerically superior force with technological parity has, at least temporarily, diminished, threats to our national security remain clear and present — albeit in various and diverse forms. The total value of the officer corps to the nation, now and in the foreseeable future, will be in its ability to meet the challenges captured in the phrase "lethality-plus." The United States Army must have commanders and staff officers who:

- Rapidly adapt to the strategic environments of peacetime engagement, conflict short of war, and war.
- Comfortably and confidently operate in joint, combined, and interagency environments.
- Skillfully integrate and synchronize lethal and nonlethal systems, leading with the system most appropriate for the situation and mission.
- Confidently cope with multiple objectives, simultaneous operations, and tasks laden with ambiguity and complexity.

- Masterfully apply doctrine, materiel, and organizational structure to minimize the number of soldiers in harm's way.

The Challenge — What and Where. The stage has been set in previous chapters regarding the changing nature of Division and Brigade level roles and functions. Commanders and staff officers at these levels will be most affected by these changes. Developing the new knowledge and skills in these officers represents roughly half of the new officer development challenge for a "lethality-plus" Army.

The second half of the challenge lies in the imperative to reduce uncertainty and ambiguity for our soldiers and leaders at Battalion, Company, Platoon and Squad level. The Army's response to the changing environment with its changing missions will complicate the lives of Division and Brigade level commanders and staff officers. But, these same officers must have the skills to task organize and assign subordinate unit tasks in a manner that will allow small units to focus on combinations of the more traditional tasks.

Although life at the Division and Brigade level will be more complex and ambiguous, the basic tasks of the commander and staff officer will remain the same. What will change are the conditions. These conditions encompass the various operational environments in which Divisions and Brigades will operate. Commanders and staff officers must still see the field of operations, think, visualize what's happening, envision the desired end state, decide on the sequencing and resourcing of various activities, communicate their intent, and act. They must do all this under significant amounts of stress and time constraints. Additionally, the staff estimate process must be carried on continuously and course corrections made when necessary to adapt to a turbulent environment.

The "lethality-plus" commander and staff officer will see a field of operations anywhere on the operational continuum rather than just a battlefield. They must:

Leader Development

- Know where to look and what to look for. Where to look and what to look for will depend on the operational environment and the mission.
- Know what to look with and how to direct and synchronize these assets. Again, this depends on the environment and mission. Selecting and synchronizing information gathering assets during support for counter-narcotics operations is different than doing the same task while providing support for peacekeeping.
- Be able to tolerate and cope with too much information or too little information, and ambiguous or conflicting information.
- Bring informational order from data chaos and lack of information to form a more clear vision of the field of operations.
- Envision the desired end state with general guidance from above and in situations characterized by multiple and conflicting objectives — some traditionally military in nature and some not.
- Think beyond the desired end state relevant to the military element of power. "Lethality-plus" means thinking beyond the phase when military forces have the lead. If follow-on forces are to be UN peacekeepers, current operations must facilitate that transition.
- Wargame multiple courses of action simultaneously, predict second and third order effects of various actions, and sequence and resource lethal and nonlethal systems to reach the desired end state, while at the same time minimizing the number of soldiers in harm's way.
- Solve problems and think as a team — both internally and during joint, combined, and interagency operations.
- Apply the full range of tactical operations and strategies while being predisposed to none.

- Select innovative solutions and take measured risks when doctrine comes up short of a solution.

In short, "lethality-plus" commanders and staff officers must know how to think, not just what to think. They must be capable of applying the decision-making process to a wide variety of situations — many of which do not lend themselves to the "two up, one back" approach. The decision-making process must become such an integral part of the commander's and staff officer's thinking that they become capable of synthesizing various doctrinal concepts and decision aids to generate innovative solutions to complex situations.

In communicating intent and acting, the "lethality-plus" commander and staff officer must:

- Communicate clear, unambiguous, and accomplishable tasks to subordinate units, despite the complexity and ambiguity at their own level.
- Balance commitment to a course of action with flexibility and adaptability necessary to cope with a turbulent operational environment.
- Continuously monitor the situation without interference, keep a clear focus on the desired end state, adapt to the unexpected, and incorporate new assets and systems as they arrive.

These are some of the many challenges facing the officer corps in the 21st Century. To meet these challenges, the Army must put systems, programs, and policies into motion today that create officers for tomorrow who are "Professionals in Lethality-Plus."

Meeting The Challenge

Although change will affect soldiers and civilians in all grades and positions, commanders and staff officers at Division and Brigade level will be most affected. Their frame of reference must be that which we currently expect of more senior commanders

and staff officers. They will view the world as practitioners of operational art. They will cope with a level of ambiguity and complexity that will stretch their abilities and knowledge. They will be asked to operate as effectively in peacetime engagement and conflict short of war as they have always done in war. And they will be asked to synchronize complex operating systems in greater numbers than before — incorporating lethal and non-lethal systems, and leading with the system most appropriate for the situation. To further complicate matters, they will be asked to do all this while keeping life relatively simple for unit leaders at Battalion level and below.

These significant changes in the capabilities of the officer corps must be accomplished while avoiding that one liability so often associated with turbulent times — doing more with less. Avoiding that pitfall will require a more efficient structuring of the three pillars of development — institutional training, training in operational assignments, and self-development. And it will require systems that support that structure. The following presents possible future directions for officer development.

Army-Wide Common Training Scenarios. Training scenarios can be developed that replicate the operational environment and correspond to the regional situations faced by each of our warfighting CINCs. These scenarios become the basis for both training in our professional schools and for command and staff team training in our divisions and brigades. These scenarios should reflect the three strategic environments our forces will operate in — peacetime engagement, conflict short of war, and war. The individual officer and the command-staff team are placed in a dynamic and turbulent environment that takes them through the full range of operational planning and related decision making and problem solving — from peacetime contingency planning through escalation to war and to post-combat stability operations. Heavy emphasis must be placed on the synchronization of systems, both lethal and nonlethal, during various phases of the operation. Commanders and staff officers must continuously develop their abilities to

see, think, decide, communicate, and act in a variety of environments.

Standardized Decision-Making Process. One indicator that specialization in the officer corps has caused the Army some problems is the panoply of decision-making models. The various proponents we have in the Army are each inclined to develop a model that meets their particular needs — a phenomenon good for the specialist, but detrimental to the Division and Brigade level commander and staff officer of the future. The Army decision-making process must not be threat based, must encompass both the tactical and operational levels, and must be applicable in a variety of operational environments — taking into account the Army's role in synchronizing lethal and non-lethal systems. It is very useful to have an Army decision-making model that is the process model used in the common training scenarios. How it is adapted and shortened depends on the situation — but the process must be known to be adapted. That model must become a centerpiece of the officer education system. It is the key in learning how to think and how to solve problems in a predictable manner.

Command-Staff Team Development. With some exceptions, we currently focus on the individual officer's acquisition of knowledge and development of skills. At some point in the future, a number of these individuals come together and we expect them to operate as a team. The interplay between the commander and staff officers in the decision-making process must become an educational priority. During training exercises, observer-controllers are a key to identifying strengths and weaknesses in group dynamics as they are at identifying strengths and weaknesses of the group product. These observations can best be accomplished as the staff is trained during the multiechelon BCTP process with adaptive scenarios.

Simulations. Computer assisted simulations for training battle staffs are becoming increasingly cost-effective and increasingly capable of replicating the complexity and ambiguity of military operations. They also

save training time. They need emphasis in training development. We must take simulations out of the "Sim Center" and to the unit in the field. Simulations must be designed in a manner similar to the Army standard training scenarios, taking commanders and staffs through the full range of operations, to include those other than direct combat. Simulation technology also permits us to take the needed step of instituting a staff readiness rating, similar to the ratings we use with Battalions. These readiness ratings will provide an assessment of the state of training of the staff entity and must be based upon both individual competencies and staff exercises that replicate the operational environment. Simulations that support commander and staff training and readiness ratings must account for the fact that C³I is more than just the exercise of decision-making processes — it also includes the ability of the commander and staff to operate in the fog of war. Moving, maintaining, feeding, sleeping, and communicating are staff activities as well as soldier activities. Simulations that do not place the commander and staff in that environment are not realistic and do not account for the numerous variables that impinge on commander and staff decision making.

Conclusion

"Lethality-plus" is much more than the additive effects of the "lethality" and the "plus." It represents a total view of the strategic environment and the role of the Army in that environment. It must define our institutional culture for the foreseeable future. It will place much greater demands on the mental agility and adaptability of our officer corps than we have seen in the past. Although the many changes happening now and predicted for the future will significantly affect force structure, doctrine, and materiel, the skills and knowledge of the men and women who lead our Army must be our central concern if we are to succeed in protecting the national security interests of our nation into the 21st Century.

Leader development initiatives for the future must concentrate on developing the new

knowledge, skills, and attitudes required to meet the challenges of the future. Although we will expect more of leaders at all levels, the focus of these new initiatives should now be on our Corps, Division and Brigade level commanders and staff officers. The Battalion staffs have a reasonable training process at present. Initiatives proposed in this paper include:

- √ Development of Army-wide common training scenarios that replicate the new operational environment.
- √ Development and institutionalization of a standardized Army decision-making model.
- √ Focused programs for development of the Command-Staff Team at Division and Brigade level.
- √ Decentralization and expansion of the "Sim Center" concept to include development of the simulation center that moves with the C² system as it fights.

Chapter 8

Materiel and Equipment

The Army requires a materiel and technological capability commensurate with a new world reality. To meet the requirements that the United States will face in this uncertain environment, we need to capitalize on our capability to meet challenges in five key areas: battlefield awareness; combat identification; all weather and day/night operating capability; tactical missile defense; and simulators and simulations.

Introduction

The Army's need to respond to the variety of challenges which it will face in the future requires a materiel and technological capability commensurate with the new world reality. We now face continuous restrictions in terms of national resources committed to the military in general and the Army in particular. The strategy for generating an innovative approach now and in the future will focus on how well we are able to manage uncertainty and provide for flexibility.

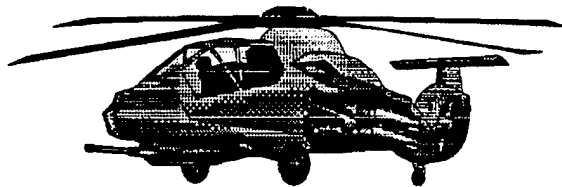
With the bulk of the Army stationed within CONUS and the requirement to mount a credible response with both the Active and Reserve Components, the Army must continue to modernize with deployability as a critical imperative. Central to our new operational concept is the design of combat systems that minimize the soldier presence and exposure on the battlefield. Fighting from "out-of-sight" must be an essential design element, for both new organizations and equipment. Tradeoffs are achievable between the increased weight and resultant deployability penalty of modern armor protection with the new concepts of "tuned" armor protection, accuracy at greater ranges, crew protection, and automation.

Equipment and materiel, to the extent that is possible and affordable, must be common in both the Active Army and the Reserve Component. If not common, they must be at least compatible, sharing repair parts, trainable skills, and test and repair equipment.

We do not now face a principal enemy, against whom we can develop a military strategy, design operational doctrine, form organizations, and compare technological performance, or measure readiness. The goal should be to as good as we can be, adapting the best of our technology to the combat and non-combat tasks we will face in the future. Increased efficiency, with less human labor, in accomplishing essential tasks should be a leading measure of merit for future developments, especially in the materiel area.

Experts now recommend that the Army begin a realignment of its in-house research capabilities to gradually replace the branch-oriented structure with a capabilities-based orientation and promote private industry participation in research through information exchange both to stretch the limited funding available to seizing on advances achieved outside the Army establishment and to generate new ideas within both establishments.

The recent decision by TRADOC to establish Battle Labs is a significant step toward the integration of design and testing methods, in this case for emerging doctrine and



organizations. The TRADOC example of both vertical and horizontal integration, and the elimination of duplication that will follow this realignment, have been recommended for implementation within the Army's Research and Development community.

We should continue to make use of the life cycle model. At the point it makes more sense to replace a basic system instead of improving it, we should introduce a new system. This approach minimizes short term mistakes which may cost dearly in the long term. We should also reemphasize the "system-of systems" approach. Without it there is no discipline to the selection process for individual platforms and no way to reap the advantages of commonality.

A continuing emphasis on adapting commercial items to military use is absolutely necessary. With both the civilian and governmental sectors facing tightened budgets, greater cooperation between the two would yield significant economies of scale and would be to the mutual benefit of both communities.

Capabilities

There are five capabilities that we need to exploit to effect the changes in doctrine and organization discussed earlier in this paper. The capabilities are:

- Battlefield awareness
- Combat Identification
- All weather, day/night operating capability
- Tactical missile defense
- Simulators and simulations

Battlefield Awareness

Battlefield awareness encompasses command and control, communications, information acquisition, dissemination and display, intelligence, navigation, and targeting and rests on the integration of robotic vehi-

cles, both air and ground, as well as space-based communication, sensory, and navigation nodes.

Sensor technology will enable both the acquisition and prioritization of targets, without requiring the physical presence of the operator. The future battlefield will see an array of sensors in the air space above the battlefield and emplaced at critical points on the battlefield through both manned and automated systems. The aggressive use of unmanned air and ground vehicles (UAV and UGV) provides overlapping and continuous coverage, redundancy, and thus relative immunity from interdiction and a lessened reliance on the presence of man at vulnerable and hard to support locations.

The critical link in the surveillance and targeting system will be the communications and data transfer system that provides the basis for command and control. At the operational/strategic level we are now seeing the influence of space-based communication and data systems; the future will see a corresponding capability at the tactical level.

Translating this technology to command and control rests with the developments in software, the "...creation of a battlefield control language to translate command decisions into detailed directives to field units."¹⁷ It will be possible to depict information in the traditional forms of maps, military graphics, and familiar reports and orders formats. Current efforts to construct a sophisticated command and control system focus primarily on Division, with servicing nodes at Brigade. When commanders now leave the confines of their Tactical Operations Centers, they leave the critical communication node behind.

At the same time we need to refrain from trying to develop overly elaborate, complex software systems for relatively simple requirements. The past record on software is mixed. We should move towards a mid-way solution, focusing on integrating what we already have so we can continue to get value from it for the rest of the current decade and not price ourselves out of the market in the

quest for the perfect, one-system-does-all solution. Simultaneously, we still need to encourage innovation and leading edge technology in order to develop the capabilities needed to fight and win the information war.

New systems will offer unimagined capabilities to manage and display information. Technology will result in rugged, mobile systems, capable of managing and displaying critical information at the commander's request, immediately and without the resort to lengthy, often out of date, staff briefings. The same system will link all the commander's key actors in his net, networked throughout the command structure to leaders at all levels.

Today's commander on the ground still cannot see what awaits him on the other side of the hill. We are restricted to the mobility of human scouts, whose acquisition is limited by eight power binoculars against enemy systems observing through greater magnification optics. It is thus a "trial and weapons error" methodology for scouts; i.e., see who shoots to determine who is there. A first step is to remove man from the battlefield and replace him with remote sensors, UAVs, and UGVs. These systems never tire, are always alert, and don't operate with concerns for personal maintenance and operating tempo.

Combat Identification

The concepts of fighting described elsewhere in this paper visualize the dispersing of Army forces into smaller units, units possessed with increased lethality, over significantly greater engagement ranges. However, the human eye cannot distinguish the target from friend or foe at the ranges we expect that target to be engaged. The speed and accuracy of our weapons, battlefield dispersion, and the resultant space between moving units, increased kill probabilities, and the likelihood of sudden, unexpected encounters all act together to elevate the importance of recognizing friend from foe and heighten the need for positive combat identification.

The capability to reduce, and perhaps eliminate, the threat of fratricide will be found in the development of the key technologies of optical and infrared systems for acquisition, and laser and millimeter-wave radar for identification, location, and ranging. Most promising is their use in a system of sensors providing the accuracy of discrimination to correctly identify friend from foe (IFF). If we are to move toward remotely or robotically operated weapons and weapons platforms, then the identification of friend from foe is a critical task.

We can further reduce fratricide by integrating these systems and vetronics on combat systems such that commanders at every level are at once kept aware of their units' locations and status, and the locations and the status of enemy with which they are in contact.

All Weather, Day/Night Operating Capability

The Army requires the capability to conduct relentless pursuit, capitalizing on technology that will eliminate the negative effects of night and weather. The same technological advances that enhance battlefield awareness and promote the reduction of fratricide will also thrust the Army into operating in the night and poor weather as it currently operates in the day.

Better sensors and target acquisition will facilitate target acquisition, with greater fidelity and recognition, at greater ranges, largely unaffected by weather. Linking visual displays electronically with remoted, automated fire control will translate to increased engagement accuracy, at greater ranges, and with greater speed.

The development of robot helpers will free the soldier from the tiring, mundane tasks that now require human labor, facilitating an increased operating pace commensurate with continuous operations.

Tactical Missile Defense

While conventional artillery will extend to heretofore unimagined ranges, reaching out to 100+ kilometers, the real innovation in long range fires will be realized with the proliferation of multiple rocket launchers and theater tactical missiles.

The integration of tactical missiles has always been limited by two factors: mobility and accuracy. Mobile, tactical units had little to fear unless they were stationary for long periods of time. Technology such as the MLRS and ATACMS largely overcomes those problems. Mating this increased range with mobility and accuracy makes all echelons of a force vulnerable. What Desert Storm demonstrated was that a potential aggressor, located some distance away from the target of his choosing, can, with a modest investment and with relatively primitive technology, attack in a dramatic way to achieve goals that are both politically and military motivated.

Follow-on systems to Patriot will proliferate. They will cease being fixed site dependent; their accuracy will be vastly improved. They will possess the ability to acquire, track, and engage multiple missile attacks. Increasingly, Army Air Defense will refocus from Anti-Air to include Anti-Missile. The threat that other, less advanced, nations will obtain missile systems similar to both MLRS and ATACMS makes this redirection much more an urgent necessity.

Simulators and Simulations

While the Army has embraced simulations at all levels, from individual training to the training of entire units, the synthetic battlefield that simulation generates will be the centerpiece of joint and Army training in the future.

We can no longer afford to field weapons systems without the simulators to train in their use. Our existing experience demonstrates that integrating simulators improves training and readiness. If for no other reason, environmental concerns, coupled with the greater dispersion, ranges, and operating en-

velopes of new weapons will outstrip the Army's current training land.

Tactical simulations have proliferated. The future will see commanders at all levels afforded less and less opportunity to train with their unit in the field. But problems must be overcome. The current family of simulations were not designed to interact between Services. The replication of service support and intelligence is limited. Within that limitation, there is less than full interaction among combat models. The requirement for different terrain and force data within each model reduces flexibility and increases costs. Finally, current simulations model only a narrow range of conflict and do not address the social, economic, and political factors that affect military operations.

While the Army has capitalized on using simulation to enhance, even replace, actual equipment and personnel and at the same time improve training across the force, design and acquisition has been largely ignored. The Defense Science Board on Simulation, Readiness, and Prototyping found the acquisition community well behind the training community in developing the confidence to use simulation through the full range of its capability. The Board recommended that the Army take the "...opportunity...at hand...[to have]...the Acquisition Community...take full advantage of ADS [Advanced Distributive Simulation] throughout the development cycle with the Warfighter's Environment."

Conclusions

- ✓ *The future will belong to the nation best able to manage uncertainty.* On the field of battle, that uncertainty can only be addressed with a force that is flexible by design and equipment, strategically deployable, increasingly lethal, and capable of operating easily within a joint or combined framework.
- ✓ *Effective and responsive command and control is paramount.* We have to visualize this function in broader terms. It now encompasses more than communications and data transfer. It must be de-

signed to integrate all means of information acquisition, management, transfer, display, and networking headquarters at all echelons.

- √ ***The increased range, lethality, and uncertainty of the battlefield, coupled with its increased automation, require better combat identification and positive control to eliminate fratricide.*** The means to accomplish this is based both on removing man from the dangers inherent with his presence on the battlefield and capitalizing on advances in UAV/UGV, sensor technology, and automated fire control.
- √ ***We must design for continuous operations.*** We can achieve this through the synergistic effect that obtains from the combination of sensor technology with automation and the proliferation of UAV and UGV that together will lessen the reliance we currently place on the human presence on the battlefield.
- √ ***The tactical missile will become the most common threat to the safety of the force.*** Any potential adversary can obtain intermediate range missiles of various sophistication. They are a threat in any operating scenario, and require a corresponding counterforce regardless of the size US formation and the nature of the conflict to which it is responding.
- √ ***Simulators and simulations are the keys to both a better trained and equipped force.*** They are at once less expensive and more flexible, able to depict all ranges of potential employment, and all configurations of force and enemy. However, the Army must integrate across service lines, include weapons design and procurement within its parameters, and design them to address the full range of conflict which the future portends.

Chapter 9

Meeting The Challenge

The challenge presented in this paper is to forge a power projection Army with a truly versatile, elastic force structure, capable of task organizing on short notice to undertake new and often unfamiliar missions, then also capable of rapidly returning to its original configuration of fighting our Nation's land battles. This force must be backed by a responsive, effective, and efficient command and control, deployment, and support capability.

Overview

The challenge facing the US Army today is to provide a unified, comprehensive vision of what the Army needs to look like and be able to do as it heads into the next century. This vision needs to be clearly articulated, broad enough to cover all the related areas of the DOTLMS framework, and fully and enthusiastically accepted by all members of the Army Team. The vision must also provide for a rational, balanced approach to analyzing and further developing the concepts presented here. This study is an effort to define an initial concept of a vision for the Army and "put a mark on the wall" towards which the synchronized efforts of all Army units, agencies, and activities are focused in concert.

The Army's leaders, of today and tomorrow, provide the vision. The Army's leaders must lead the effort to fully analyze, develop, codify, and implement the vision to ensure the Army's successful transition to the 21st Century. The *Louisiana Maneuvers* process is a bold, yet reasoned, first step to institutionalizing the management of change; for guiding the process of transition in an organized, methodical manner to yield the best manned, equipped, trained, and maintained Army that the Nation deserves.

Louisiana Maneuvers has generated tremendous interest and wide-spread support throughout the Army and the defense community, and is seizing the initiative to drive change. What the process needs now is the long range, unifying vision that this study

attempts to provide. Its most immediate efforts have focused on solving near-term problems of great significance and the first results are very promising. Exercises incorporated this year and the associated analyses of the initial issues provides proof of principle that the process holds long term value for the Army.

The formulation of a coherent, unified long term strategic vision for the Army will enable that process to build upon current successes and provide an organized approach for changing the Army in the most effective manner.

Focusing Change

This study does not purport to be the final, definitive answer to what the Army should look like as it heads into the 21st Century, but presents an initial, proposed concept to focus the process of change to the Army's benefit. One of its major goals is to stimulate intellectual discussion within and without the Department of the Army, and solicit the ideas and opinions of all the Army's leaders from top to bottom. This intellectual discussion and debate can only benefit the Army by bringing out the best ideas, subjecting them to objective scrutiny, and forging them through the trial by fire of public discussion and debate.

The concepts presented here also provide fuel for the *Louisiana Maneuvers*. Much work remains to be done in further analyzing, developing, and testing these concepts to produce a workable, achievable vision.

The areas of force structure and doctrine are particularly well suited to further analysis within the *Louisiana Maneuvers*, in the large scale, simulation driven exercises envisaged for the near future. These concepts will lead to tomorrow's issues, which can be most effectively analyzed within these exercises.

The TRADOC/AMC Battle Labs also have a key role to play as they work hand-in-hand with *Louisiana Maneuvers* to produce innovative, comprehensive solutions to the Army's pressing issues. Their efforts provide energy and focus to the process of controlling change and growth; they help direct and guide change to the Army's benefit by developing leading edge solutions to pressing, operational issues.

The other major player is the oft-mentioned, sometimes misunderstood, and pervasive microprocessor. Rapidly advancing technology will provide a vital ingredient to the process, particularly in enhancing the capability to rapidly analyze alternative solutions and create virtual prototypes for further analysis and development. While the microprocessor does offer unique advantages, technology, as well as change, must also be carefully managed. Care must be taken to focus in on only the most promising technologies and quickly put them to use in solving tomorrow's problems today. Without a careful and reasoned approach, the wide variety of competing and increasingly costly technologies can quickly consume scarce resources to no apparent benefit.

Distributed Interactive Simulation (DIS) technology appears to offer the greatest return on investment for the Army's investment and training dollars. Efforts underway

today show great potential for revolutionizing the way the Army goes about training, equipping, and maintaining the force. Under expert guidance, judicious use of this technology will greatly enhance the process of defining and refining the Army's vision for the next century as well as leading the way in executing that vision.

Meeting The Challenge

This study presents a campaign plan for creating a mobile Army capable of rapid response to crises anywhere. An Army that can provide support as well as security where people live, on the land. The ideas and concepts remain to be tested and evaluated, then those that pass the test should be scheduled for implementation as soon as practical. The *Louisiana Maneuvers* process provides the ideal testbed for these concepts. Everything described in this study is adaptable for evaluation as an issue under the LAM umbrella. This also ensures that those concepts passing scrutiny are quickly surfaced to the LAM Board of Directors for a final review and recommendation. Through this process, those ideas of immediate benefit to the Army can be implemented rapidly.

Time is critical in this period of rapid evolution on the world stage. The US Army must demonstrate extreme flexibility and agility in its thinking and in its actions or face the unsettling prospect of being overcome by world events. The fate of the Army rests in the hands of its senior leaders in a pivotal era — rising to the challenge will ensure an Army capable of reprising the successes of the past 218 years.

"We must think about the future in a structured way. If we did not have a way to think about tomorrow, we would allow ourselves to become bogged down by today. Our challenge is to acquire capabilities that will get us successfully through today so that we can get to tomorrow."

— GEN Gordon R. Sullivan

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